

Final



**Environmental Assessment
for Proposed Construction and Lease of
New Facilities for the Department of Energy,
National Nuclear Security Administration,
Office of Secure Transportation
(Albuquerque Transportation and Technology
Center)**

Albuquerque, New Mexico

Prepared by the:



**General Services Administration
Public Buildings Service
Operations Support Branch
Fort Worth, Texas**

July 2006

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE JUL 2006		2. REPORT TYPE		3. DATES COVERED 00-00-2006 to 00-00-2006	
4. TITLE AND SUBTITLE Environmental Assessment for Proposed Construction and Lease of New Facilities for the Department of Energy, National Nuclear Security Administration, Office of Secure Transportation (Albuquerque Transportation and Technology Center)			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S)			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) General Services Administration,Public Buildings Service,Operations Support Branch,Fort Worth,TX,76102			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 117	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Finding of No Significant Impact

for the

Environmental Assessment for Proposed Construction and Lease of New Facilities for the Department of Energy, National Nuclear Security Administration, Office of Secure Transportation (Albuquerque Transportation and Technology Center), Albuquerque, New Mexico

I have reviewed the attached environmental assessment (EA) prepared by the General Services Administration (GSA) for the proposed construction and lease of new facilities for the Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Secure Transportation (OST) in Albuquerque, New Mexico. The action is necessary to support the current and planned expansion of the OST mission.

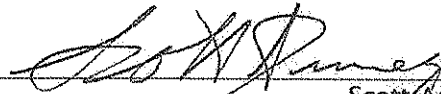
Potential impacts associated with the proposed construction and lease of new facilities were analyzed and documented in the attached EA. Issues associated with the proposed action include: land use/zoning; traffic/transportation; utilities; outdoor air quality; noise; water resources (surface water, groundwater, and floodplains); biological resources; solid/hazardous waste and landfills; cultural resources and historic properties; and historic ranges, unexploded ordnance, and other weapons-related incidents/occurrences.

Based on the findings of the EA, there would be no significant environmental impacts associated with implementing the proposed action through selection of any of the alternatives. As such, the GSA has selected Alternative 4 - Construct and Lease New Facilities at the Mesa Del Sol Northeast Site (Site 3) as its preferred alternative to implement.

I have concluded that implementation of this alternative is not controversial and will not have a significant adverse impact on the natural or man-made environment. I further conclude that implementing the proposed action will not constitute a major federal action requiring the preparation of an Environmental Impact Statement (EIS), pursuant to the National Environmental Policy Act (NEPA) of 1969 (Public Law [PL] 91-190). Therefore, a Finding of No Significant Impact (FONSI) is warranted.

Date

7-14-06



Scott Arney
Regional Administrator
General Services Administration

Executive Summary

This EA has been prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 to 4370d), as implemented by the regulations promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] §1500–1508).

Description of the Proposed Action – The General Services Administration (GSA) proposes to take the action necessary to meet the current and future facility needs of the Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Secure Transportation (OST) in Albuquerque, New Mexico.

Purpose and Need for the Proposed Action – The OST currently has a number of activities and functions in Albuquerque that support the transportation of secure NNSA assets throughout the U.S:

- Federal Agent Facility, Western Command (FAF WC)
- Vehicle Maintenance Facility (VMF)
- Mobile Electronic Maintenance Facility (MEMF)
- NNSA, NA-15, Kirtland Operations (KO)
- Transportation and Emergency Command Center (TECC)
- OST Administration and Support
- NA-10 Functions Located in Albuquerque

The administrative and operational functions performed at the existing facilities can best be compared to that of a city vehicle maintenance facility or city service center that coordinates and services a fleet of city-owned administrative and maintenance vehicles (e.g., parks department trucks and equipment, transport vans, etc.). Operations at the existing facilities include no use or storage of explosive or radioactive materials. Operations do, however, include the storage of small arms similar to that one would associate with a typical city police department. The seven functions listed above are located in a variety of facilities in Albuquerque. The facilities are all 20 or more years old, in poor condition, and are not sized or configured to adequately support the OST mission. Many of the facilities are 20 to 30 year old metal buildings that were constructed with the intent to be used for short-term missions that have since evolved into long-term missions. In addition to government owned facilities, there are two leased facilities at which the government has expended and has plans to continue to expend resources to modify and update the buildings to meet mission requirements. One of the facilities/sites is located on Kirtland Air Force Base (AFB) next to the flight line. Kirtland personnel have requested that action be taken to move this operation off the site so that the U.S. Air Force (USAF) will have the property available for expanded flight operations.

In general, the existing OST facilities do not allow for the planned expansion of the OST mission (including an increased number of personnel and an increased number of tractor-trailers and escort vehicles), are aged beyond their economically useful life for current and future mission requirements, and do not meet current standards for occupancy, security, and occupant safety and health. In an effort to satisfy the purpose and need for the proposed action, several selection criteria were developed by the GSA to compare and contrast alternative ways of fulfilling the objectives of the action. Those specific mission-based criteria include:

- (1) Provide facilities in a location that best allows for the OST mission and supporting functions to be accomplished in an efficient and effective manner.
- (2) Provide facilities to adequately support the current and planned expansion of the OST mission (approximately 50 acres of land to accommodate buildings, parking, vehicle circulation, and other associated infrastructure).
- (3) Provide facilities with reasonable access to public roads for OST convoys as well as existing or reasonable access to available utilities and infrastructure.
- (4) Provide facilities that can be adequately secured, screened, and/or access controlled.
- (5) Provide facilities that are compatible with adjacent properties (compatible architectural design/appearance as well as compatible, non-competing uses).
- (6) Provide facilities that allow for efficient and effective work flow and synergy with other OST functions as well as meeting current standards/requirements for occupancy and occupant safety and health.
- (7) Provide facilities in support of the OST mission in a cost-effective manner.

Alternatives Developed to Implement the Proposed Action – The alternatives developed to implement the proposed action include:

- **Alternative 1 (No Action)** – Under the no action alternative, the seven functions listed above would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.
- **Alternative 2 (Construct and Lease New Facilities at the Mesa Del Sol South Site [Site 1])** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 50 acres at the southern side of the Employment Center within the Mesa Del Sol Planned Development.
- **Alternative 3 (Construct and Lease New Facilities at the Mesa Del Sol East Site [Site 2])** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST

multiple new facilities on approximately 50 acres at the eastern edge of the Employment Center within the Mesa Del Sol Planned Development.

- **Alternative 4 (Construct and Lease New Facilities at the Mesa Del Sol Northeast Site [Site 3])** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 50 acres at the northeastern corner of the Employment Center within the Mesa Del Sol Planned Development.
- **Alternative 5 (Construct and Lease New Facilities South of the Kirtland AFB Eubanks Gate)** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 35 acres south of the Kirtland AFB Eubanks Gate and near the Sandia Science and Technology Park. This parcel of land is known as the Eubanks Site.
- **Alternative 6 (Lease New Permanent and/or Temporary Facilities)** – Under this alternative the OST would take the action necessary to meet current and future facility needs in Albuquerque by leasing new space and/or constructing new temporary facilities in the Albuquerque area to house personnel and equipment associated with planned mission expansion.
- **Alternative 7 (Expand and/or Modify Existing Facilities)** – Under this alternative the OST would take the action necessary to meet current and future facility needs in Albuquerque by renovating existing facilities (to meet current standards for occupancy, security, and safety) to house personnel and equipment associated with planned mission expansion.

Alternatives Eliminated from Detailed Study – Alternative 6 (Lease New Permanent and/or Temporary Facilities) and Alternative 7 (Expand and/or Modify Existing Facilities) were eliminated from detailed study because they would not satisfy any of the selection criteria listed previously.

Alternatives Carried Forward for Detailed Study – Several alternatives were carried forward for detailed analysis in this supplement:

- Alternative 1 – No Action
- Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites
- Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Issues Studied in Detail – The issues associated with implementing the proposed action include potential impacts to (or from): land use/zoning; traffic/transportation; utilities; outdoor air quality; noise; water resources (surface water, groundwater, and floodplains); biological resources; solid/hazardous waste and landfills; cultural resources and historic properties; and historic ranges, unexploded ordnance, and other weapons-related incidents/occurrences.

Issues Eliminated from Detailed Study – CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a dramatic effect on the human environment. In accordance with §1501.7, issues eliminated from detailed study include: soils and geology; socioeconomics and environmental justice; visual resources; occupational safety and health; and indoor air quality.

Summary of Environmental Consequences – Table ES-1 provides a summary of the environmental consequences associated with implementing the proposed action. As demonstrated in the table, implementing the proposed action through selection of any of the alternatives carried forward for detailed analysis would result in no significant impacts. However, selection of Alternative 5 (Construct and Lease New Facilities South of the Kirtland AFB Eubanks Gate) could result in an unacceptable increase in short-/long-term traffic in the area (capacity and safety), could result in extensive utility disruption for existing customers in the area due to utility relocation/rerouting that would be required (additional expense would also be expected due to required utility relocation/rerouting), and would require additional cultural resources surveys to insure no impacts (no site-specific surveys were conducted because right-of-entry could not be obtained).

Table ES-1. Summary of Environmental Consequences of Action Alternatives Carried Forward.

Environmental Attribute/Issue (threshold criteria)	Alternatives 2-4	Alternative 5
Land Use/Zoning (consistent/compatible with prevailing/planned land use and zoning?) (acceptable development within Accident Potential Zone II?)	Yes N/A	Yes Yes
Traffic/Transportation (unacceptable impact from temporary construction activities?) (unacceptable increase in short-/long-term traffic [capacity and safety]?)	No No ¹	No Yes ²
Utilities (takes advantage of existing utility access?) (within the capacity of utility providers and their infrastructure?) (results in minimal utility disruption for existing customers?) (results in extensive utility relocation/rerouting?)	Yes Yes Yes No	Yes Yes No ³ Yes
Outdoor Air Quality (emissions exceed de minimis rates for the CO or the O ₃ standards?) (emissions contribute to a violation of the regions fugitive particle regulations?) (emissions contribute to a violation of regional CO control measures?)	No No No	No No No
Noise (results in long-term increases in the number of people highly annoyed by the noise environment?) (results in noise associated adverse health effects to individuals?) (results in unacceptable increases to the noise environment for nearby sensitive receptors?)	No No No	No No No
Water Resources (results in impacts to surface water quality/features, wetlands, groundwater/groundwater quality, or floodplains?)	No	No
Biological Resources (significant impact to prevailing vegetative cover and/or wildlife?) (impact to state or federally protected flora/fauna or unique habitats?)	No No	No No
Solid/Hazardous Waste and Landfills (impact from existing solid/hazardous waste from nearby landfills?) (impact from use, storage, transport, or disposal of hazardous materials during construction/demolition activities?) (unacceptable increase in the use, storage, transportation, or disposal of hazardous materials/substances with long-term operations?)	No No No	No ⁴ No No
Cultural Resources and Historic Properties (impact to culturally significant sites and/or properties?) (impacts to traditional cultural properties?)	No ⁵ No	No ⁶ No ⁷
Historic Ranges, UXO, and Other Weapons-Related Incidents/Occurrences (impact resulting from UXO at historic range in the area?) (impact resulting from other weapons-related incidents in the area?)	No ⁸ No	No ⁸ No

N/A Not Applicable

¹ – Projected level of service (LOS) for University Boulevard below acceptable standards by the year 2025. One of the initial developments in the area with build-out not happening for years. Additional analysis/review of transportation needs within the Mesa Del Sol development programmed into future Level B and C documents. Traffic capacity or safety issues addressed and planning altered as development/growth continues in the area.

² – Prevailing and projected (2020) traffic issues in the immediate area would likely result in delays, could contribute to possible safety issues, and could impact the mission. Situation could be improved in the future by further

- improvement/expansion of Eubanks Boulevard, staggering work days/hours, and improvements at the Eubanks Gate and associated queuing.
- 3 – Extensive relocation/rerouting of existing overhead utilities could result in increased cost and increased potential for disruption for existing customers.
 - 4 – Construction would be conducted in accordance with all local, state, and/or federal guidance with regards to development in an active or inactive designated landfill buffer zone.
 - 5 – No cultural resources at Mesa Del Sol 3. Further investigations/consultation warranted prior to ground disturbing activities at Mesa Del Sol 1 and at Mesa Del Sol 2 (regarding LA 142183) should these sites be chosen for development (per State Historic Preservation Office [SHPO]).
 - 6 – No anticipated impacts based on previous disturbance in the area. However, site-specific surveys necessary to insure no impacts should this site be chosen for development.
 - 7 – Should this site be chosen for development, consultation would be conducted with tribal groups to insure no impacts to cultural properties.
 - 8 – Although a limited site investigation indicated a low risk/potential for UXO at one of the Mesa Del Sol sites, an investigation, assessment, and other necessary steps would be employed to identify and remove any potential UXO prior to commencing construction activities at any of the sites.

Table of Contents

Section 1.0	Purpose and Need	1-1
1.1	Description of the Proposed Action.....	1-1
1.2	Purpose and Need for the Proposed Action	1-1
1.3	Scope of this EA.....	1-5
1.3.1	Background and Other Relevant Documentation	1-5
1.3.2	Issues Studied in Detail	1-8
1.3.3	Issues Eliminated from Detailed Study	1-9
1.4	Document Organization.....	1-11
Section 2.0	Alternatives to Implement the Proposed Action	2-1
2.1	Alternatives Evaluation Process	2-1
2.2	Alternatives Eliminated From Detailed Study	2-4
2.2.1	Alternative 6 – Lease New Permanent and/or Temporary Facilities	2-4
2.2.2	Alternative 7 – Expand and/or Modify Existing Facilities	2-5
2.3	Alternatives Carried Forward for Detailed Study	2-5
2.3.1	Alternative 1 – No Action	2-5
2.3.2	Alternative 2 – Construct and Lease New Facilities at the Mesa Del Sol South Site (Site 1)	2-6
2.3.3	Alternative 3 – Construct and Lease New Facilities at the Mesa Del Sol East Site (Site 2)	2-10
2.3.4	Alternative 4 – Construct and Lease New Facilities at the Mesa Del Sol Northeast Site (Site 3)	2-10
2.3.5	Alternative 5 – Construct and Lease New Facilities South of the Kirtland AFB Eubanks Gate	2-10
2.4	Comparison of the Alternatives.....	2-11
Section 3.0	Affected Environment	3-1
3.1	Land Use/Zoning	3-1
3.1.1	Mesa Del Sol Sites	3-1
3.1.2	Eubanks Site	3-1
3.2	Traffic/Transportation	3-2
3.2.1	Mesa Del Sol Sites	3-2
3.2.2	Eubanks Site	3-5
3.3	Utilities	3-7
3.4	Outdoor Air Quality	3-8
3.5	Noise	3-10

3.6	Water Resources (surface water, groundwater, and floodplains)	3-12
3.6.1	Surface Water	3-13
3.6.2	Groundwater	3-14
3.6.3	Floodplains	3-16
3.7	Biological Resources	3-16
3.7.1	Flora and Fauna	3-16
3.7.2	Threatened and Endangered Species	3-17
3.8	Solid/Hazardous Waste and Landfills	3-20
3.8.1	Mesa Del Sol Sites	3-20
3.8.2	Eubanks Site	3-21
3.9	Cultural Resources and Historic Properties	3-21
3.9.1	Mesa Del Sol Sites	3-22
3.9.2	Eubanks Site	3-23
3.10	Historic Ranges, Unexploded Ordnance, and Other Weapons-Related Incidents/Occurrences	3-24
Section 4.0	Environmental Consequences	4-1
4.1	Land Use/Zoning	4-1
4.1.1	Alternative 1 – No Action	4-1
4.1.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-1
4.1.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-1
4.1.4	Cumulative Impacts	4-1
4.2	Traffic/Transportation	4-2
4.2.1	Alternative 1 – No Action	4-2
4.2.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-2
4.2.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-3
4.2.4	Cumulative Impacts	4-4
4.3	Utilities	4-5
4.3.1	Alternative 1 – No Action	4-5
4.3.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-5
4.3.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-5
4.3.4	Cumulative Impacts	4-6

4.4	Outdoor Air Quality	4-6
4.4.1	Alternative 1 – No Action	4-6
4.4.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-7
4.4.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-7
4.4.4	Cumulative Impacts	4-8
4.5	Noise	4-8
4.5.1	Alternative 1 – No Action	4-8
4.5.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-8
4.5.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-10
4.5.4	Cumulative Impacts	4-11
4.6	Water Resources (surface water, groundwater, and floodplains)	4-11
4.6.1	Alternative 1 – No Action	4-11
4.6.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-11
4.6.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-12
4.6.4	Cumulative Impacts	4-12
4.7	Biological Resources	4-12
4.7.1	Alternative 1 – No Action	4-12
4.7.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-12
4.7.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-13
4.7.4	Cumulative Impacts	4-13
4.8	Solid/Hazardous Waste and Landfills	4-13
4.8.1	Alternative 1 – No Action	4-13
4.8.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-13
4.8.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-14
4.8.4	Cumulative Impacts	4-15
4.9	Cultural Resources and Historic Properties	4-15
4.9.1	Alternative 1 – No Action	4-15
4.9.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-15

4.9.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-16
4.9.4	Cumulative Impacts	4-17
4.10	Historic Ranges, Unexploded Ordnance, and Other Weapons-Related Incidents/Occurrences	4-18
4.10.1	Alternative 1 – No Action	4-18
4.10.2	Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites	4-18
4.10.3	Alternative 5 – Construct and Lease New Facilities at the Eubanks Site	4-19
4.10.4	Cumulative Impacts	4-19
Section 5.0	List of Preparers	5-1
Section 6.0	Agencies and Individuals Contacted and Document Distribution	6-1
Section 7.0	References	7-1
Section 8.0	Acronyms and Abbreviations.....	8-1

Appendices

A	Reasonably Available Control Measures for Fugitive Dust
B	Emissions Calculations
C	Cultural Resources and Historic Properties Communication/Coordination
D	Notice of Availability and Affidavit of Publication

List of Figures

Figure 1-1.	General Location Map	1-2
Figure 2-1.	Approximate Location of Mesa Del Sol Sites (1 through 3) and Eubanks Site....	2-2
Figure 4-1.	Distance from Site Boundary vs. Day Night Sound Level and Percent Highly Annoyed Due to Additional Construction Noise	4-10

List of Tables

Table 2-1.	Facilities Proposed for Construction	2-6
Table 2-2.	Summary Comparison of Alternatives and Purpose and Need Criteria	2-12
Table 2-3.	Summary of Environmental Consequences of Action Alternatives Carried Forward.....	2-13
Table 3-1.	Level of Service Definitions	3-5

Table 3-2.	Projected LOS for University Boulevard Extension, 2025 Phased Development Senario and 2025 Build Out Scenario	3-5
Table 3-3.	Projected LOS at Intersections Near the Eubanks Site	3-7
Table 3-4.	National Ambient Air Quality Standards	3-9
Table 3-5.	Applicability Thresholds for Maintenance Areas	3-9
Table 3-6.	Common Sound Levels	3-11
Table 3-7.	State and Federally Listed Threatened and Endangered Species Listed For Bernalillo County	3-18
Table 4-1.	Estimated Emissions Compared to <i>De Minimis</i> Thresholds	4-7
Table 4-2.	Expected Equipment and Contribution to Overall Construction Noise During the Expected Loudest Period of Construction	4-9

Section 1.0 Purpose and Need

This environmental assessment (EA) has been prepared in accordance with Section 102 of the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] 4321 to 4370d), as implemented by the regulations promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] §1500–1508). In accordance with CEQ regulations (§1502.13), this section of the EA briefly specifies the underlying purpose and need to which the General Services Administration (GSA), Greater Southwest Region (Region 7) is responding in proposing the alternatives for implementing the agency action (i.e., proposed action). Preparation of this EA adheres to GSA NEPA guidelines, namely GSA Order ADM 1095.1F and the Public Buildings Service (PBS) NEPA Desk Guide, both dated October 1999.

1.1 Description of the Proposed Action

The GSA proposes to take the action necessary to meet the current and future facility needs of the Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Secure Transportation (OST) in Albuquerque, New Mexico (Figure 1-1). The alternatives developed by the GSA to implement the proposed action are described in Section 2.1.

1.2 Purpose and Need for the Proposed Action

Since 1947 the DOE (and its predecessor agencies) has moved nuclear weapons, weapons components, and special nuclear materials by commercial and government transportation modes. In the late 1960s, worldwide terrorism and acts of violence prompted a review of procedures for safeguarding these materials. As a result, a comprehensive new series of regulations and equipment were developed to enhance the safety and security of these materials in transit. The Office of Transportation and Safeguards (OTS) was subsequently established in 1975 at the DOE Albuquerque Operations Office. The OTS modified and redesigned transport equipment to incorporate features that more effectively enhanced self-protection and denied unauthorized access to the materials. During this time, OTS curtailed the use of commercial transportation systems and moved to a total federal operation. In 2000, Title 32 of the National Defense Authorization Act (Public Law [PL] 106-65) established the NNSA as a semiautonomous agency within the DOE with responsibility for the nation's nuclear weapons, nonproliferation, and naval reactors programs. The Albuquerque Operations Office and its entire mission fell under the direction of the NNSA, which included the OTS. In 2002, the NNSA implemented a new organizational structure to consolidate the Albuquerque Operations Office with other NNSA operations offices into the NNSA Service Center in Albuquerque. The OTS was renamed the OST (Office of Secure Transportation) and reports directly to the Deputy Secretary for Defense Programs at the NNSA Headquarters in Washington, DC.

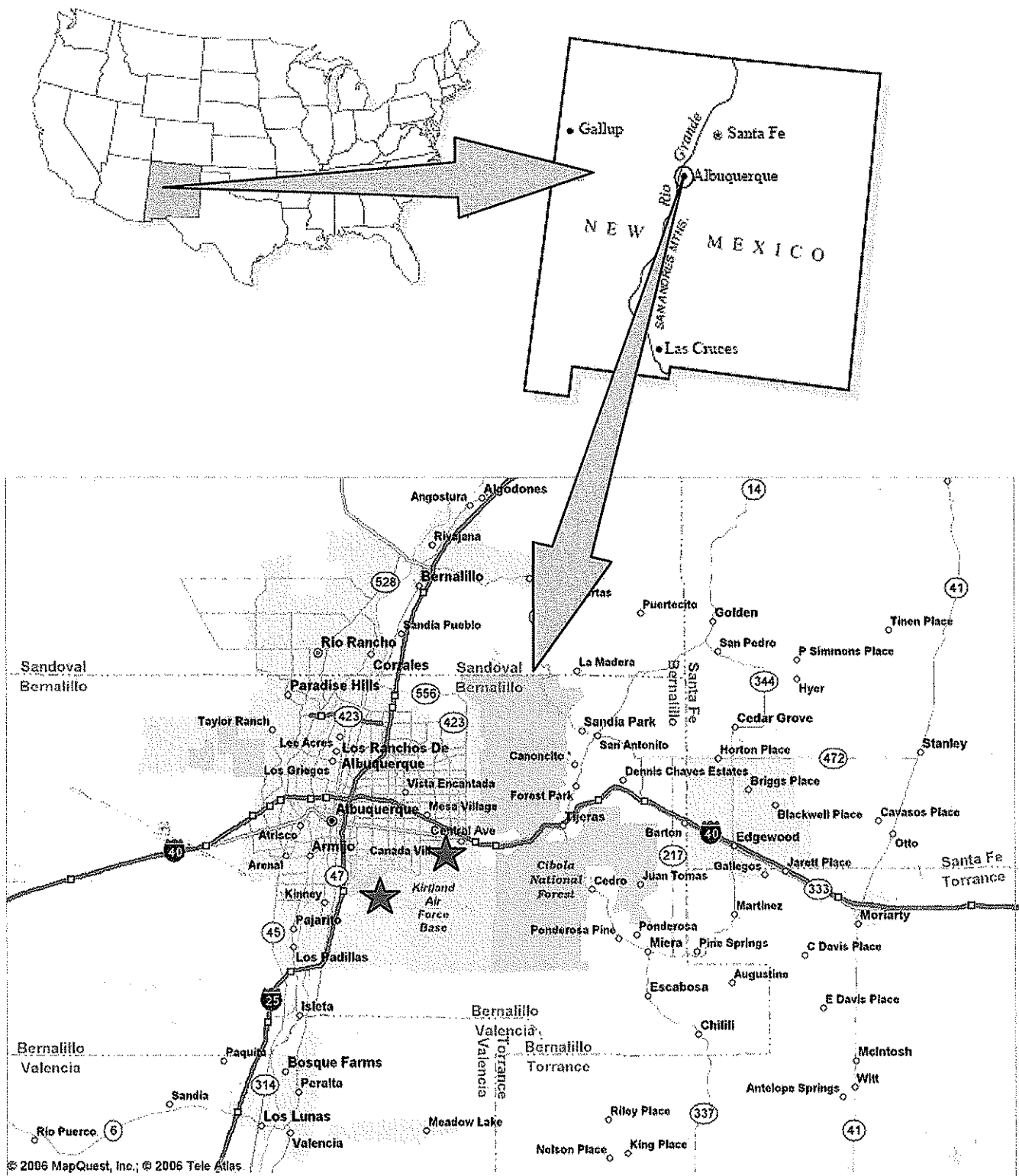


Figure 1-1. General Location Map.

The OST currently has a number of activities and functions in Albuquerque that support the transportation of secure NNSA assets throughout the U.S:

- **Federal Agent Facility, Western Command (FAF WC)** – One of three operational transportation centers that the OST uses to transport secure assets. The existing facility/location is not large enough to support planned personnel expansion in the next several years.
- **Vehicle Maintenance Facility (VMF)** – Provides all the heavy maintenance and repair operations for OST vehicles. Existing facilities are very old, in poor condition, and do not meet security requirements. Existing metal buildings are not configured to accommodate future expansion of the fleet and the current configuration does not provide for efficient and effective work flow with other operational functions (i.e., FAF WC).
- **Mobile Electronic Maintenance Facility (MEMF)** – The location where the communications and electronic security systems for each vehicle are checked, and if necessary, repaired. Existing facilities are not capable of accommodating future expanded operations and are not located to provide for efficient and effective work flow with other operational functions (i.e., FAF WC).
- **NNSA, NA-15, Kirtland Operations (KO)** – Provides engineering and design for modifications of commercially available tractors, trailers, escort vehicles, as well as support for multiple other DOE entities/organizations. Existing facilities do not provide for efficient and effective work flow internally and for other DOE entities/organizations.
- **Transportation and Emergency Command Center (TECC)** – The location where all shipments of materials are monitored on a continuous basis and where emergency operations are managed in the event of an incident. Existing facilities do not provide for efficient and effective work flow and will not accommodate future expansion plans and continuity of operations.
- **OST Administration and Support** – Provides managerial, technical, and administrative functions in support of the OST mission. Existing facilities do not provide for efficient and effective work flow or synergy between other OST functions.
- **NA-10 Functions Located in Albuquerque** – Multiple locations providing administrative, support and other functions. Existing facilities/locations do not provide for efficient and effective work flow.

The administrative and operational functions performed at the existing facilities can best be compared to that of a city vehicle maintenance facility or city service center that coordinates and services a fleet of city-owned administrative and maintenance vehicles (e.g., parks department trucks and equipment, transport vans, etc.). Operations at the existing facilities include no use or storage of explosive or radioactive materials. Operations do, however,

include the storage of small arms similar to that one would associate with a typical city police department.

The seven functions listed above are located in a variety of facilities in Albuquerque. The facilities are all 20 or more years old, in poor condition, and are not sized or configured to adequately support the OST mission. Many of the facilities are 20 to 30 year old metal buildings that were constructed with the intent to be used for short-term missions that have since evolved into long-term missions. In addition to government owned facilities, there are two leased facilities at which the government has expended and has plans to continue to expend resources to modify and update the buildings to meet mission requirements. One of the facilities/sites is located on Kirtland Air Force Base (AFB) next to the flight line. Kirtland personnel have requested that action be taken to move this operation off the site so that the U.S. Air Force (USAF) will have the property available for expanded flight operations.

In general, the existing OST facilities do not allow for the planned expansion of the OST mission (including an increased number of personnel and an increased number of tractor-trailers and escort vehicles), are aged beyond their economically useful life for current and future mission requirements, and do not meet current standards for occupancy, security, and occupant safety and health.

In an effort to satisfy the purpose and need for the proposed action, several selection criteria were developed by the GSA to compare and contrast alternative ways of fulfilling the objectives of the action. Those specific mission-based criteria include:

- (1) Provide facilities in a location that best allows for the OST mission and supporting functions to be accomplished in an efficient and effective manner.
- (2) Provide facilities to adequately support the current and planned expansion of the OST mission (approximately 50 acres of land to accommodate buildings, parking, vehicle circulation, and other associated infrastructure).
- (3) Provide facilities with reasonable access to public roads for OST convoys as well as existing or reasonable access to available utilities and infrastructure.
- (4) Provide facilities that can be adequately secured, screened, and/or access controlled.
- (5) Provide facilities that are compatible with adjacent properties (compatible architectural design/appearance as well as compatible, non-competing uses).
- (6) Provide facilities that allow for efficient and effective work flow and synergy with other OST functions as well as meeting current standards/requirements for occupancy and occupant safety and health.
- (7) Provide facilities in support of the OST mission in a cost-effective manner.

1.3 Scope of This EA

This EA documents and discloses the potential environmental impacts that could result should the GSA implement the proposed action through selection of one of the alternatives discussed in Section 2.1. As defined in the CEQ regulations (§1508.25), the scope consists of the range of actions, alternatives, and impacts to be considered in a NEPA document. Scoping is conducted to aid in determining the scope of issues to be addressed and for identifying the relevant issues related to a proposed action. Scoping for this project consisted of multiple meetings and discussions between the GSA and OST representatives.

1.3.1 Background and Other Relevant Documentation

In developing the project, several initial studies were conducted in an effort to adequately detail and document the appropriate facility needs and requirements necessary to ensure successful mission support for the OST now and in the future. Additional studies have been conducted at the properties under consideration or in the immediate area. The relevant documentation and/or studies are listed in the following sections.

Albuquerque Transportation and Technology Center – Mission Need Statement

This document, submitted in December 2003 by the Sandia Site Office (in support of the OST), provides a summary of the:

- OST on-going mission;
- Importance of the mission and functions;
- Mission needs in terms of facilities;
- Constraints associated with the mission and facility location;
- Environmental, safety, and health considerations associated with facility location;
- Facility security considerations; and
- Requirements for interface with other important mission elements in the area.

This document is relevant to this effort because, as demonstrated, it provides details with regards to the OST mission, needs, and other considerations and requirements for current and future facility needs.

2003 Landfill Gas Monitoring Well Installation – Eubanks Landfill

This study, issued in October 2003, details the results of landfill gas monitoring wells installed around the perimeter of the Eubanks Landfill. The study is relevant to this effort because it includes investigations of lands that are currently under consideration as a means of fulfilling the proposed action. According to the study, initial readings taken after the landfill gas

monitoring wells were installed indicated measurable levels of landfill gas at the perimeter of the Eubanks Landfill. The study concludes that additional landfill gas monitoring should be conducted on at least a quarterly basis.

2005 Landfill Gas Monitoring Quarterly Letter Report, Ninth Quarter – Eubanks Landfill

This letter report presents the results of the ninth quarter of landfill gas monitoring activities at the Eubanks Landfill. The letter report is relevant to this effort because it includes further investigations of lands that are currently under consideration as a means of fulfilling the proposed action. According to the letter report, quarterly monitoring of 22 landfill gas monitoring wells was conducted for nine consecutive quarters beginning in 2003. This report details the latest findings. The report concludes that most of the landfill gas monitoring wells at the former Eubanks Landfill do not contain levels of landfill gas, and those that do have landfill gas present, contain minimal levels. A minimal amount of landfill gas is considered less than 10 percent of the lower explosive limit (LEL). Greater than 10 percent LEL was observed in three monitoring wells. These wells are located immediately north of the northeast fill area. According to the report, these three wells have displayed landfill gas concentrations of concern in the past and should continue to be monitored. The report also concludes that landfill gas concentrations measured during the ninth quarter sampling are lower than those readings measured during the eighth quarter sampling event completed in June 2005.

EA for the Center for Integrated Nanotechnologies at Sandia National Laboratories, New Mexico

This EA, finalized in March 2003, provides an analysis of the potential impacts associated with the proposed construction of a facility on a parcel of land on the west side of Eubanks Boulevard, north of the entrance to Kirtland AFB. The EA is relevant to this effort because it includes environmental investigations of a parcel of land this is in the vicinity of lands that are currently under consideration as a means of fulfilling the proposed action.

EA for Improvements to Eubank Boulevard, Kirtland Air Force Base Gate to Southern Boulevard

This EA, finalized in April 2002, provides an analysis of the potential impacts associated with the proposed purchase of right-of-way, design, and construction of .85 miles of Eubanks Boulevard from 200 feet south of the Kirtland AFB Eubank Gate to Southern Boulevard. This EA is relevant to this effort because it includes environmental investigations of proposed improvements in the vicinity of lands that are currently under consideration as a means of fulfilling the proposed action. The EA is particularly relevant with regards to investigations related to traffic volumes and flow in the immediate area and future projected conditions.

Phase I Environmental Site Assessment (ESA) – Mesa Del Sol

This assessment, conducted in August 2003, evaluated the environmental concerns associated with the 9,000 acre Mesa Del Sol planned development. The assessment is relevant to this effort because it includes investigations of lands that are currently under consideration as a means of fulfilling the proposed action. The assessment was conducted in accordance with the American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments (Standard E 1527-00). The assessment revealed no specific evidence of recognized environmental conditions associated with the property itself. The assessment did, however, reveal two potential recognized environmental conditions to be considered for future development of the land:

- Potential groundwater contamination from a former farm and ranch site, and
- Potential groundwater contamination from unlined landfills.

Phase I Environmental Site Assessment (ESA) – Mesa Del Sol

This assessment, conducted in July 2005, evaluated the environmental concerns associated with 3,480 acres within the Mesa Del Sol planned development. The assessment is relevant to this effort because it includes investigations of lands (or is near lands) that are currently under consideration as a means of fulfilling the proposed action. The assessment was conducted in accordance with ASTM Standard Practice for Environmental Site Assessments (Standard E 1527-00). The assessment revealed no specific evidence of recognized environmental conditions associated with the property itself and concurs with the previous findings documented in the August 2003 assessment with regards to future development of the land.

Mesa Del Sol Community Master Plan, Level A Plan

This document, finalized by Forest City Covington in June 2005, is the overall master plan for the Mesa Del Sol Master Planned Community. This document is relevant to this effort because it provides discussion and analysis of lands that are currently under consideration as a means of fulfilling the proposed action. The detailed document represents the first step in the Mesa Del Sol community planning process. Additional Plans (i.e., Level B and Level C) are generally developed for a village, community center, employment center, or an urban center within the development. Level C plans are generally developed for specific subdivisions or specific site developments. At each more detailed level of planning, specific design, location, and development issues are refined in accordance with the higher level plan. In general, the Level A Plan establishes the framework for further planning and for the development of the Mesa Del Sol Community by establishing goals and policies for the community, which form the basis for the creation of a transportation network, a land use plan (including a hierarchy of activity

centers), a parks and open space plan, and plans for public facilities and utilities to serve the community.

1.3.2 Issues Studied in Detail

This EA analyzes and presents the potential impacts of the GSA taking the action necessary to meet the current and future facility needs of the OST in Albuquerque, New Mexico. In accordance with CEQ regulations (§1500.4 and §1501.7), issues to be addressed or important issues relating to this proposed action have been identified through scoping. Issues associated with the action include:

Land Use/Zoning – Implementing the proposed action should be consistent and compatible with prevailing/planned land use and zoning in the area.

Traffic/Transportation – Implementing the proposed action could have an impact on prevailing traffic/transportation in the area as a result of temporary construction activities and a long-term mission expansion. Implementing the action should be done so as not to restrict, impede, or otherwise create an ongoing capacity or safety issue on nearby roads.

Utilities – Implementing the proposed action could have an impact on existing utilities by increasing demand, requiring relocation or rerouting of utilities, or resulting in disruption of service for existing customers in the area. Implementing the action should take advantage of prevailing utility access in the immediate area and avoid expensive and time-consuming relocation or rerouting of utilities.

Outdoor Air Quality – Implementing the proposed action, specifically dust and construction equipment emissions could impact air quality in the area. An increase in personal and mission-related vehicles could also impact air quality in the areas. Activities should be scheduled/conducted so as to minimize fugitive dust and other construction related emissions. The increase in personal and mission-related vehicles should have no impact on prevailing air quality.

Noise – Implementing the proposed action, specifically noise associated with the operation of construction equipment, could result in localized noise impacts. An increase in personal and mission-related vehicles could also result in noise impacts. Construction and operational activities should be scheduled/conducted so as to minimize construction and operation-related noise. Activities should have minimal impact on nearby sensitive receptors.

Water Resources (surface water, groundwater, and floodplains) – Implementing the proposed action, specifically construction activities, soil disturbance, etc., could impact prevailing surface water quality or surface water features in the area. Activities should be conducted, and best

management practices (BMPs) implemented, to minimize potential impacts to prevailing surface waters and avoid soil erosion. Implementing the proposed action should have no impact on prevailing groundwater and groundwater quality. Implementing the proposed action should also not occur in areas prone to flooding.

Biological Resources – Implementing the proposed action could negatively impact state and/or federally protected flora/fauna. Activities should be conducted/scheduled to avoid potential impacts to protected species or sensitive/special habitats.

Solid/Hazardous Waste and Landfills – Implementing the proposed action could result in impacts from existing solid/hazardous materials disposed of at nearby landfills. Construction and demolition activities often involve the use, storage, transportation, and disposal of hazardous materials/substances (i.e., fuels, oils, lubricants, etc.). An increase in mission-related vehicles could also result in an increased use, storage, transportation, and/or disposal of hazardous materials/substances (i.e., fuels, oils, lubricants, etc.). Construction should be planned to avoid impacts from existing solid/hazardous waste and landfills. Construction, demolition, and operational activities should be conducted in accordance with all federal, state, and local laws and regulations pertaining to the use, storage, transportation, and/or disposal of hazardous materials/substances.

Cultural Resources and Historic Properties – Implementing the proposed action could result in impacts to prevailing cultural resources or historic properties. Activities should be planned and conducted to avoid potential impacts to culturally significant sites and/or properties in the area.

Historic Ranges, Unexploded Ordnance, and Other Weapons-Related Incidents/Occurrences – Implementation of the proposed action could be impacted by unexploded ordnance (UXO) or other weapons-related incidents that historically occurred in the area. To insure safety, construction, development, and long-term use should only occur in areas found to be free of possible UXO and should not be impacted by other weapons-related incidents that historically occurred in the area.

1.3.3 Issues Eliminated from Detailed Study

CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a dramatic effect on the human environment. In accordance with §1501.7, issues eliminated from detailed study include:

Soils and Geology – Implementing the proposed action would result in no significant impacts to prevailing soils and geology in the area. Soils in the area are typically deep, well drained, with a surface layer consisting of a brown, fine sandy loam ranging from three to eight inches in thickness. Subsoils are typically a brown/light brown sandy clay/sandy loam ranging from 17 to 60 inches in thickness. Implementing the proposed action would involve grading, cut/fill activities, and excavation typical of that necessary for the construction of any buildings, roads, utilities, etc. in the area. These activities would occur over an area ranging from approximately 35 to 50 acres in size. It is anticipated that all cut/fill would balance on-site and no soils would be removed or brought to the site. In accordance with the National Pollutant Discharge Elimination System (NPDES) and in accordance with State of New Mexico requirements, a Storm Water Pollution Prevention Plan (SWPPP) would be developed and implemented. A notice of intent (NOI) would be filed with the U.S. Environmental Protection Agency (USEPA) regional office and the State notified at least 48 hours in advance of construction activities. The SWPPP would be maintained on-site and would provide measures to eliminate or reduce any potential impacts to surface water quality from erosion or soil displacement in the project area (i.e., implementation of BMPs). As a result, no impacts would be anticipated.

Socioeconomics and Environmental Justice – Implementing the proposed action would result in no significant socioeconomic or environmental justice impacts. Implementing the proposed action would result in a temporary employment increase during construction and a minor, long-term increase with expanded operations. Implementing the proposed action could also “spur” additional construction/development in the area. However, implementing the action would not significantly change the demographics or growth rate of Bernalillo County or the Albuquerque area or employment opportunities or income potential of residents in the immediate area. Because there are no concentrated minority or low-income populations/groups in the immediate area, implementing the proposed action would result in no disproportionately adverse impacts.

Visual Resources – Implementing the proposed action would result in no significant impacts to prevailing visual resources, view sheds, or aesthetic values in the immediate area. Many places are recognized for their visual appeal and recognition of aesthetic resources generally occurs at local levels through zoning, planning, and code enforcement. If not consistent with the established surroundings and overall “look” of an area, impacts can occur. Impacts can also occur with the development and use (urbanization) of a particular parcel of land that is adjacent to or near other areas frequented or enjoyed by the general public for their aesthetic value (e.g., parks, natural areas, refuges, etc.). Implementing the proposed action would result in the development and use of approximately 35 to 50 acres of currently undeveloped land. The lands are however located in an already urbanized environment or in areas zoned for such development. Development and use of the facilities would be consistent with prevailing zoning/land use plans and site improvements (i.e., site design, layout, architecture, and

landscaping) would be consistent with the “look” and “feel” of the surrounding areas and that required by the local code/regulations. As a result, no impacts would be anticipated.

Occupational Safety and Health – Implementing the proposed action would result in no significant occupational safety and health impacts. All construction would be conducted in accordance with prevailing U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations. Implementing the proposed action would not result in a change in typical construction site work practices or operations. All ongoing operations would be conducted in accordance with relevant DOE standards. DOE has adopted most of OSHA’s regulations as the foundation for its own regulatory programs. However, in addition to adopting OSHA regulations and where relevant, DOE has developed additional occupational safety and health regulations of its own for the safety and health of contractors and employees. As a result of compliance with prevailing regulations, no impacts would be anticipated.

Indoor Air Quality – Implementing the proposed action would result in no significant impacts as a result of radon. Radon is a colorless, odorless and radioactive gas found naturally in some soils and rocks. It is formed from the decay of naturally occurring radioactive materials such as uranium and thorium. The USEPA and the USGS have evaluated the radon potential in the U.S. and have assigned each of the counties in the U.S. into one of three zones based on radon potential:

- Zone 1 – Highest Potential (greater than 4 pico curies per liter [pCi/L])
- Zone 2 – Moderate Potential (from 2 to 4 pCi/L)
- Zone 3 – Low Potential (less than 2 pCi/L)

Each zone designation reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon control methods. Bernalillo County has been designated as being in Zone 1. Due to the radon issue prevalent in Bernalillo County, construction would include the implementation of radon-resistant techniques as applicable (e.g., gas permeable layer, plastic sheeting, etc.). As a result, no impacts would be anticipated.

1.4 Document Organization

This document follows the format established in the CEQ regulations (40 CFR §1500–1508) and consists of the following sections:

Section 1.0 – Purpose and Need: presents a brief description of the proposed action and the purpose and need for the action, as well as the scope of the EA, background and other relevant documentation, issues studied in detail, issues eliminated from detailed study, and the document organization.

Section 2.0 – Alternatives to Implement the Proposed Action: presents the alternatives evaluation process, alternatives eliminated from detailed study, alternatives carried forward for detailed study, and a comparison of the alternatives.

Section 3.0 – Affected Environment: presents the existing baseline environment or present condition of the area(s) potentially affected by the alternatives identified to implement the proposed action. Each environmental resource potentially impacted by the implementation of the proposed action is discussed.

Section 4.0 – Environmental Consequences: provides the scientific and/or analytical basis for comparing the alternatives and describes the probable consequences of each alternative on relevant environmental resources.

Section 5.0 – List of Preparers: provides a list of the document preparers and contributors.

Section 6.0 – Agencies and Individuals Contacted and Document Distribution: provides a list of contacts and document distribution for the EA.

Section 7.0 – References: provides a list of references used in the preparation of this EA.

Section 8.0 – Acronyms and Abbreviations: provides a list of applicable acronyms and abbreviations used throughout the text.

Section 2.0 Alternatives to Implement the Proposed Action

This section of the EA describes the alternatives developed by the GSA to implement the proposed action described in Section 1.1. In accordance with CEQ regulations (§1502.14), this section:

- Presents and objectively evaluates all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discusses the reasons for their having been eliminated.
- Devotes substantial treatment to each alternative considered in detail so that reviewers may evaluate their comparative merits.
- Includes the alternative of no action.
- Includes appropriate mitigation measures.

Based on the information and analysis presented in Section 3.0 (Affected Environment) and Section 4.0 (Environmental Consequences), this section presents the environmental impacts of the alternatives in comparative form, defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.

2.1 Alternatives Evaluation Process

The purpose and need for the proposed action has been examined and documented in Section 1.2. The following analysis of alternatives was prepared to determine which alternative(s) best satisfies the purpose and need statement. Alternatives that did not fully satisfy the purpose and need were not carried forward for detailed analysis in this supplement. The alternatives analyzed include:

- **Alternative 1 (No Action)** – Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.
- **Alternative 2 (Construct and Lease New Facilities at the Mesa Del Sol South Site [Site 1])** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 50 acres at the southern side of the Employment Center within the Mesa Del Sol Planned Development (Figure 2-1).

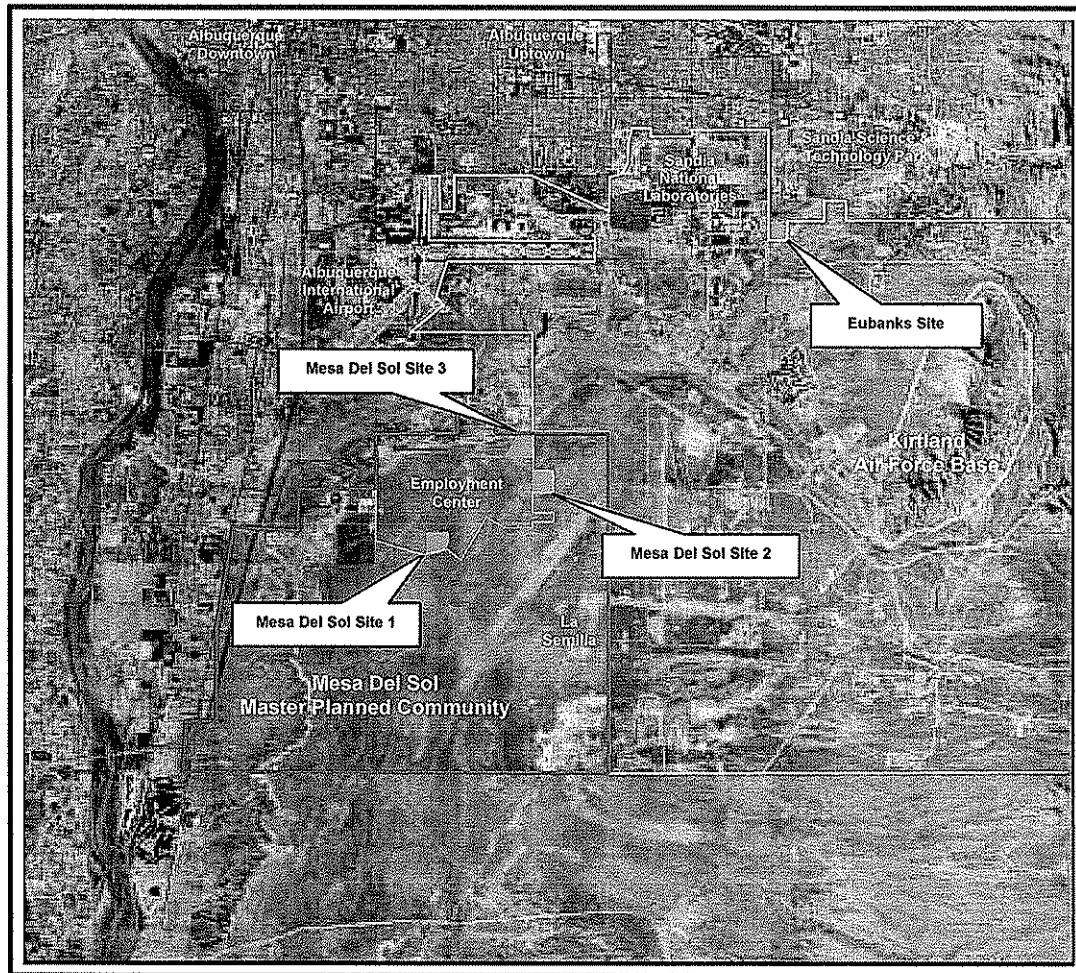


Figure 2-1. Approximate Location of Mesa Del Sol Sites (1 through 3) and Eubanks Site.

- **Alternative 3 (Construct and Lease New Facilities at the Mesa Del Sol East Site [Site 2])** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 50 acres at the eastern edge of the Employment Center within the Mesa Del Sol Planned Development (see Figure 2-1).
- **Alternative 4 (Construct and Lease New Facilities at the Mesa Del Sol Northeast Site [Site 3])** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 50 acres at the northeastern corner of the Employment Center within the Mesa Del Sol Planned Development (see Figure 2-1).
- **Alternative 5 (Construct and Lease New Facilities South of the Kirtland AFB Eubanks Gate)** – Under this alternative the GSA would take the action necessary to meet the current and future facility needs of the OST in Albuquerque by constructing and leasing to the OST multiple new facilities on approximately 35 acres south of the Kirtland AFB Eubanks Gate and near the Sandia Science and Technology Park (see Figure 2-1). This parcel of land is known as the Eubanks Site.
- **Alternative 6 (Lease New Permanent and/or Temporary Facilities)** – Under this alternative the OST would take the action necessary to meet current and future facility needs in Albuquerque by leasing new space and/or constructing new temporary facilities in the Albuquerque area to house personnel and equipment associated with planned mission expansion.
- **Alternative 7 (Expand and/or Modify Existing Facilities)** – Under this alternative the OST would take the action necessary to meet current and future facility needs in Albuquerque by renovating existing facilities (to meet current standards for occupancy, security, and safety) to house personnel and equipment associated with planned mission expansion.

The alternatives evaluation utilized a two-tiered evaluation formulated to concentrate on the purpose and need for the proposed action – meeting the current and future facility needs of the OST in Albuquerque. As the alternative evaluation proceeded through each tier, the alternatives that did not satisfy all of the criteria were eliminated from further consideration. Those alternatives that did fully satisfy the criteria continued to be subject to the next set of tier criteria. The following briefly describes the specific evaluation criteria used at each of the two tiers.

- Tier 1 evaluated whether or not the various alternative would fully meet the purpose and need criteria.
- Tier 2 evaluated whether or not the various alternatives would result in adverse environmental impacts.

The second tier of the alternatives evaluation process looked at four action alternatives (Alternative 2 through 5) as the other action alternatives did not fully satisfy the selection criteria. The no action does not satisfy the Tier 1 criteria; however, pursuant to NEPA, the no action alternative has been carried forward as the baseline to which potential impacts of the action alternatives can be compared.

2.2 Alternatives Eliminated From Detailed Study

2.2.1 Alternative 6 – Lease New Permanent and/or Temporary Facilities

Selection and implementation of this alternative would result in the OST taking the necessary action to meet current and future facility needs in Albuquerque by leasing new space and/or constructing new temporary facilities in the Albuquerque area to house personnel and equipment associated with planned mission expansion. This alternative was eliminated from detailed study because it would not satisfy any of the selection criteria listed in Section 1.2. Specifically, selection and implementation of this alternative would not:

- (1) Provide facilities in a location that best allows for the OST mission and supporting functions to be accomplished in an efficient and effective manner.
- (2) Provide facilities to adequately support the current and planned expansion of the OST mission (approximately 50 acres of land to accommodate buildings, parking, and vehicle circulation).
- (3) Provide facilities with reasonable access to public roads for OST convoys as well as existing or reasonable access to available utilities and infrastructure.
- (4) Provide facilities that can be adequately secured, screened, and/or accessibility controlled.
- (5) Provide facilities that are compatible with adjacent properties (compatible architectural design/appearance as well as compatible, non-competing uses).
- (6) Provide facilities that allow for efficient and effective work flow and synergy with other OST functions as well as meeting current standards/requirements for occupancy and occupant safety and health.
- (7) Provide facilities in support of the OST mission in a cost-effective manner.

2.2.2 Alternative 7 – Expand and/or Modify Existing Facilities

Selection and implementation of this alternative would result in the OST taking the necessary action to meet current and future facility needs in Albuquerque by renovating existing facilities (to meet current standards for occupancy, security, and safety) to house personnel and equipment associated with planned mission expansion. This alternative was eliminated from detailed study because it would not satisfy any of the selection criteria listed in Section 1.2. Specifically, selection and implementation of this alternative would not:

- (1) Provide facilities in a location that best allows for the OST mission and supporting functions to be accomplished in an efficient and effective manner.
- (2) Provide facilities to adequately support the current and planned expansion of the OST mission (approximately 50 acres of land to accommodate buildings, parking, and vehicle circulation).
- (3) Provide facilities with reasonable access to public roads for OST convoys as well as existing or reasonable access to available utilities and infrastructure.
- (4) Provide facilities that can be adequately secured, screened, and/or accessibility controlled.
- (5) Provide facilities that are compatible with adjacent properties (compatible architectural design/appearance as well as compatible, non-competing uses).
- (6) Provide facilities that allow for efficient and effective work flow and synergy with other OST functions as well as meeting current standards/requirements for occupancy and occupant safety and health.
- (7) Provide facilities in support of the OST mission in a cost-effective manner.

2.3 Alternatives Carried Forward for Detailed Study

2.3.1 Alternative 1 – No Action

Selection and implementation of this alternative would result in the seven functions listed in Section 1.2 continuing to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST. Selection and implementation of this alternative would satisfy none of the selection criteria previously outlined.

2.3.2 Alternative 2 – Construct and Lease New Facilities at the Mesa Del Sol South Site (Site 1)

Selection and implementation of this alternative would result in the GSA construction and lease of multiple new facilities on approximately 50 acres at the southern side of the Employment Center within the Mesa Del Sol Planned Development. There are currently no building locations/configurations for the property; however, the approximate location of the 50 acre site is depicted in Figure 2-1. Demolition and construction/development activities would be conducted in accordance with all relevant federal, state, and local laws as well as relevant agency instructions and/or directives (include obtaining all permits as required). New facilities proposed for construction at the site are listed in the following table:

Table 2-1. Facilities Proposed for Construction.

Facility/Function	Approximate Size (gross square feet)
Federal Agent Facility	35,000
Mobile Electronics Maintenance Facility	7,000
Vehicle Maintenance Facility	20,000
Transportation and Emergency Control Center	45,000
NNSA Kirtland Operations Facility	146,000
OST Administration and Support Offices	75,000
NA 10 Management and Administration Offices	36,000

Construction/Development

Selection of the developer by the Government and development and construction of all improvements on the site would be completed in accordance with a Mesa Del Sol Master Community Plan approved by the Government. Construction would include all necessary site grading/excavation; utility placement, tie in, and hook ups; supporting infrastructure (antenna, fencing, security measures, visual screening, etc.); and associated hardscape (drainage, drives, parking, walkways, etc.) and landscaping/revegetation. The Mesa Del Sol area is currently largely undeveloped, as such; access in the area is fairly limited. As part of construction, the developer of the Mesa Del Sol Planned Community would provide access to/from nearby Interstate 25 via Bobby Foster Road and the Rio Bravo/University Boulevard Extension that is currently under construction at the south end of the Albuquerque International Sunport diagonal runway. The extension is being constructed to accommodate two lanes in each direction, however for the first few years it may only be one lane in a given direction depending on volume (Yasmer 2005). Additional access options would be provided by the developer via the planned Mesa Del Sol Interchange as the development matures. Construction of the facilities would be expected to begin in 2007 and would be conducted in phases with final project completion estimated for 2008. Construction activities would generally take place six days a week (Monday through Saturday) between the hours of 7:00 am and 5:00 pm.

Implementing this alternative would involve grading, cut/fill activities, and excavation typical of that necessary for the construction of buildings, drives, parking, utilities, etc. These activities would occur over an area approximately 50 acres in size. It is anticipated that all cut/fill would balance on-site and no soils would be removed or brought to the site. In accordance with NPDES requirements (construction sites greater than 5 acres [Phase I] and between 1 and 5 acres [Phase II]), a site-specific SWPPP would be developed and implemented. The SWPPP would be maintained on site and would provide measures (i.e., implementation of BMPs) to eliminate or reduce any potential impacts to surface water quality in the immediate area. Prior to the start of activities, a notice of intent (NOI) would be filed with the USEPA in accordance with the USEPA Stormwater Construction General Permit. No activities would proceed until the NOI has been posted on the USEPA website for seven days.

Personnel and equipment for the construction activities would come from local sources (local contractors). Personnel would access the site via existing roadways (where possible). Construction equipment would be delivered (trailed) via local roadways as well, and would be stored at the site. Typical notifications/permitting and signage would be implemented in accordance with State and local requirements should traffic rerouting, lane closures, etc. be required in the immediate area. On-site equipment would likely include several mobile, heavy trucks or equivalent type vehicles (e.g., bulldozers, loaders, dump trucks, graders, etc.). Additional light-duty, stationary equipment (e.g., generators, compressors, saws, etc.) and construction worker private vehicles (pickup trucks or the equivalent) would also be present throughout the duration of activities. All substantial equipment maintenance would be conducted off site by the contractor and in accordance with all applicable laws and regulations. Construction equipment would be required to be operated (hours of operation) and maintained in an effort to reduce combustive emissions and ensure minimal impacts to local and regional air-quality. To further ensure minimal impacts to local and regional air quality through fugitive dust emissions, reasonably available control measures would be implemented (Appendix A). On-site equipment repairs would be limited to routine daily maintenance with any generated waste disposed of in accordance with all applicable laws and regulations. All generated construction waste/debris (including any hazardous materials or waste) would be recycled or disposed of at an approved landfill in accordance with all applicable laws and regulations. Implementing this alternative would not result in a change in typical construction site work practices or operations and all construction activities would be conducted in accordance with Department of Labor, OSHA regulations.

Development and use of the facilities would be consistent with prevailing zoning/land use plans and site improvements (e.g., site design, layout, architecture, and landscaping, etc.) would be consistent with the "look" and "feel" of the surrounding areas and that required by the local code/regulations. Development and use of the facilities would be consistent with all prevailing City of Albuquerque ordinances and guidelines. Due to the radon issue prevalent in Bernalillo

County, construction would include the implementation of radon-resistant techniques as applicable (e.g., gas permeable layer, plastic sheeting, etc.).

Because the site is in close proximity to a historic Government bombing range, there is the possibility that unexploded ordinance (UXO) associated with this range may have landed on the site. Although a limited site investigation (GSA 2006) conducted at one of the Mesa Del Sol sites indicated a low risk/potential for UXO at the site, a requirement would be made on any future development of the Mesa Del Sol Planned Community that a site investigation, assessment, and remediation (if applicable) of UXO be completed by the developer prior to the commencement of any construction activities.

As part of this alternative, several existing facilities (and supporting infrastructure, as appropriate) would be demolished soon after the new facilities are complete and ready to be occupied. Demolition would be expected to occur in fiscal year (FY) 2008 or 2009. Demolition would occur at two locations and would primarily consist of demolition/disposal of existing modular trailers. The sites where the modular trailers are located are approximately six acres and 20 acres in size. It is anticipated that demolition activities conducted at the six acre site would consist only of demolition/disposal of the modular trailers. Demolition activities at the 20 acre site could be more extensive, consisting of demolition/disposal of the modular trailers and other infrastructure (e.g., pavement, etc.) in an effort to restore the site to its prior condition.

Demolition activities would be conducted in a similar manner and consistent with the construction activities discussed above. All generated demolition waste/debris (including any hazardous materials or waste) would be recycled or disposed of at an approved landfill in accordance with all applicable laws and regulations. It is assumed that the majority of the demolition waste/debris generated would be disposed of at the Kirtland AFB sanitary landfill. Due to the age of some of the structures, certain components may contain asbestos-containing materials (ACM). Demolition activities would be conducted in accordance with relevant regulations, standards, and instructions that implement all appropriate safety measures with regards to ACM identification, removal, and disposal.

Operations

Although it is contemplated that there would be an expansion of the current OTS mission, the mission-related activities would remain consistent to a large degree with current operations. The administrative and operational functions that would be performed at the new facilities could best be compared to that of a city vehicle maintenance facility or city service center that coordinates and services a fleet of city-owned administrative and maintenance vehicles (e.g., Parks Department trucks and equipment, transport vans, etc.). As part of the mission, multiple "convoys" would be dispatched from the site. A convoy could consist of one or more 18-wheel

tractor trailers as well as multiple passenger vans or other equivalent-type vehicles. There is no set number of convoys and no set schedule or timing for the convoys. Dispatch is based solely on mission requirements. Operations at the site would include no use or storage of explosive or radioactive materials. Operations would, however, include the storage of small arms similar to that one would associate with a typical City police department. All ongoing operations would be conducted in accordance with relevant federal, state, and local laws as well as relevant agency instructions and/or directives (include obtaining all permits as required), including DOE safety and health standards. DOE has adopted most of OSHA's regulations as the foundation for its own regulatory programs. However, in addition to adopting OSHA regulations and where relevant, DOE has developed additional occupational safety and health regulations of its own for the safety and health of contractors and employees.

Due to a consolidation of facilities/functions at the site and the contemplated expanded OTS mission, there would be an increase in personnel and an increase in mission-related vehicles at the site (including non-operation maintenance vehicles, etc.). The consolidation of personnel would also result in an increase in personal vehicles at the site and in the immediate area. Approximately 680 existing personnel would occupy the facilities upon completion. This number is projected to grow by an additional 170 to approximately 850 by FY 2009. It is estimated that approximately 100 existing personnel currently use the Eubanks Boulevard corridor and the Eubanks Gate to access existing facilities. As a result, by FY 2009, as many as 750 additional personal vehicles could travel Bobby Foster Road and the Rio Bravo/University Boulevard Extension on a daily basis to access the new facilities. Mission-related vehicles are expected to increase from 51 to 73 by FY 2009.

It may also be assumed that an increase in mission-related vehicles would result in a moderate increase (estimated at 20 percent) in hazardous materials/substances (i.e., petroleum, oils, lubricants, etc.) use, storage, and disposal (Crawford 2006). Current operations at the existing facility (i.e., the Vehicle Maintenance Facility) include the use, storage, and disposal of the typical hazardous materials/substances one would associate with operation of a city vehicle maintenance facility or city service center. All current use, storage, and disposal of hazardous materials/substances is conducted in accordance with all applicable federal, state, and local laws/regulations. Although in slightly larger quantities, future use, storage, and disposal of hazardous materials/substances would occur in compliance with relevant laws/regulations.

Long-term operations would include water supply and sewage collection provided by the City of Albuquerque (no groundwater would be used as part of construction or long-term operations). Solid waste collection and disposal as well as recycling (as appropriate) would be provided by the City of Albuquerque or a local commercial entity. Hazardous waste (petroleum products, batteries, bulk liquids, etc.) collection and disposal would also be provided by a local commercial entity. Natural gas and electrical supply would be provided by the Public Service

Company of New Mexico (PNM). Stormwater collection would be via sheet drainage to engineered storm drains.

2.3.3 Alternative 3 – Construct and Lease New Facilities at the Mesa Del Sol East Site (Site 2)

Selection and implementation of this alternative would result in the GSA construction and lease of multiple new facilities on approximately 50 acres at the eastern edge of the Employment Center within the Mesa Del Sol Planned Development. There are currently no building locations/configurations for the property; however, the location of the 50 acre site is depicted in Figure 2-1. All activities associated with development and operation of this site would be the same as those described under Alternative 2. However, because of the presence of a previously identified archeological site (LA 142183), additional investigation/consultation with the New Mexico State Historic Preservation Office (SHPO) would need to be conducted prior to ground disturbing activities to insure no impacts to the site.

2.3.4 Alternative 4 – Construct and Lease New Facilities at the Mesa Del Sol Northeast Site (Site 3)

Selection and implementation of this alternative would result in the GSA construction and lease of multiple new facilities on approximately 50 acres at the northeast corner of the Employment Center within the Mesa Del Sol Planned Development. There are currently no building locations/configurations for the property; however, the location of the 50 acre site is depicted in Figure 2-1. All activities associated with development and operation of this site would be the same as those described under Alternative 2.

2.3.5 Alternative 5 – Construct and Lease New Facilities South of the Kirtland AFB Eubanks Gate

Selection and implementation of this alternative would result in the GSA construction and lease of multiple new facilities on approximately 35 acres south of the Kirtland AFB Eubanks Gate and near the Sandia Science and Technology Park. There are currently no building locations/configurations for the property; however, the location of the 35 acre site is depicted in Figure 2-1. All activities associated with development and operation of this site would be the same as those described under Alternative 2. Primary access to the site would be provided via Eubanks Boulevard. As mentioned previously, the Eubanks Site is immediately adjacent to the current Kirtland AFB boundary. There are several known historic bombing ranges on Kirtland AFB and the “fan” of one known historic bombing ranges extends off the current base boundaries to the west. There is a distinct possibility that other historic bombing ranges could be discovered in the area in the future. Although no known historic bombing ranges are in the area of the Eubanks Site, an investigation, assessment, and other necessary steps would be

employed (by the property owner) to identify and remove any potential UXO from the site prior to commencing construction activities.

Implementation of this alternative would further require a site-specific archeological survey to insure no impacts to potential cultural resources. The area is highly disturbed by previous activities in the area, as a result, no significant cultural resources are anticipated. However, site-specific surveys were not conducted as part of this effort because right-of-entry could not be obtained. Implementation of this alternative would also require consultation with local tribal groups to insure no impacts to culturally significant properties.

Because a portion of this site is located on the former South Eubanks Landfill (City of Albuquerque Municipal Landfill) and the remaining portion of the site is within a City designated landfill buffer zone, construction and development at the site would be conducted in accordance with guidelines developed by the City of Albuquerque for development within an active or inactive City designated landfill buffer zone. The guidelines implement review requirements to determine if landfill gas exists on a given property and require the development of risk abatement measures if landfill gas is present to eliminate any hazards or potential hazards associated with the landfill gases.

2.4 Comparison of the Alternatives

Table 2-2 provides a summary comparison of the alternatives as they relate to the purpose and need criteria presented in Section 1.2. Table 2-3 provides a summary of the environmental consequences associated with implementing the proposed action through the selection of the alternatives carried forward for detailed study. As demonstrated in Table 2-3, implementing any of the alternatives would result in no significant environmental effects.

Table 2-2. Summary Comparison of Alternatives and Purpose and Need Criteria.

Purpose and Need Selection Criteria	Alternatives		
	Alternative 1 No Action	Alternatives 2 – 5	Alternatives 6 and 7
Provide facilities in a location that best allows for the OST mission and supporting functions to be accomplished in an efficient and effective manner.	No	Yes	No
Provide facilities to adequately support the current and planned expansion of the OST mission (approximately 50 acres of land to accommodate buildings, parking, and vehicle circulation).	No	Yes	No
Provide facilities with reasonable access to public roads for OST convoys as well as existing or reasonable access to available utilities and infrastructure.	No	Yes	No
Provide facilities that can be adequately secured, screened, and/or accessibility controlled.	No	Yes	No
Provide facilities that are compatible with adjacent properties (compatible architectural design/appearance as well as compatible, non-competing uses).	No	Yes	No
Provide facilities that allow for efficient and effective work flow and synergy with other OST functions as well as meeting current standards/requirements for occupancy and occupant safety and health.	No	Yes	No
Provide facilities in support of the OST mission in a cost-effective manner.	No	Yes	No

Table 2-3. Summary of Environmental Consequences of Action Alternatives Carried Forward.

Environmental Attribute/Issue (threshold criteria)	Alternatives 2-4	Alternative 5
Land Use/Zoning (consistent/compatible with prevailing/planned land use and zoning?) (acceptable development within Accident Potential Zone II?)	Yes N/A	Yes Yes
Traffic/Transportation (unacceptable impact from temporary construction activities?) (unacceptable increase in short-/long-term traffic [capacity and safety]?)	No No ¹	No Yes ²
Utilities (takes advantage of existing utility access?) (within the capacity of utility providers and their infrastructure?) (results in minimal utility disruption for existing customers?) (results in extensive utility relocation/rerouting?)	Yes Yes Yes No	Yes Yes No ³ Yes
Outdoor Air Quality (emissions exceed de minimis rates for the CO or the O ₃ standards?) (emissions contribute to a violation of the regions fugitive particle regulations?) (emissions contribute to a violation of regional CO control measures?)	No No No	No No No
Noise (results in long-term increases in the number of people highly annoyed by the noise environment?) (results in noise associated adverse health effects to individuals?) (results in unacceptable increases to the noise environment for nearby sensitive receptors?)	No No No	No No No
Water Resources (results in impacts to surface water quality/features, wetlands, groundwater/groundwater quality, or floodplains?)	No	No
Biological Resources (significant impact to prevailing vegetative cover and/or wildlife?) (impact to state or federally protected flora/fauna or unique habitats?)	No No	No No
Solid/Hazardous Waste and Landfills (impact from existing solid/hazardous waste from nearby landfills?) (impact from use, storage, transport, or disposal of hazardous materials during construction/demolition activities?) (unacceptable increase in the use, storage, transportation, or disposal of hazardous materials/substances with long-term operations?)	No No No	No ⁴ No No
Cultural Resources and Historic Properties (impact to culturally significant sites and/or properties?) (impacts to traditional cultural properties?)	No ⁵ No	No ⁶ No ⁷
Historic Ranges, UXO, and Other Weapons-Related Incidents/Occurrences (impact resulting from UXO at historic range in the area?) (impact resulting from other weapons-related incidents in the area?)	No ⁸ No	No ⁸ No

N/A Not Applicable

- ¹ – Projected level of service (LOS) for University Boulevard below acceptable standards by the year 2025. One of the initial developments in the area with build-out not happening for years. Additional analysis/review of transportation needs within the Mesa Del Sol development programmed into future Level B and C documents. Traffic capacity or safety issues addressed and planning altered as development/growth continues in the area.
- ² – Prevailing and projected (2020) traffic issues in the immediate area would likely result in delays, could contribute to possible safety issues, and could impact the mission. Situation could be improved in the future by further

improvement/expansion of Eubanks Boulevard, staggering work days/hours, and improvements at the Eubanks Gate and associated queuing.

- 3 – Extensive relocation/rerouting of existing overhead utilities could result in increased cost and increased potential for disruption for existing customers.
- 4 – Construction would be conducted in accordance with all local, state, and/or federal guidance with regards to development in an active or inactive designated landfill buffer zone.
- 5 – No cultural resources at Mesa Del Sol 3. Further investigations/consultation warranted prior to ground disturbing activities at Mesa Del Sol 1 and at Mesa Del Sol 2 (regarding LA 142183) should these sites be chosen for development (per State Historic Preservation Office [SHPO]).
- 6 – No anticipated impacts based on previous disturbance in the area. However, site-specific surveys necessary to insure no impacts should this site be chosen for development.
- 7 – Should this site be chosen for development, consultation would be conducted with tribal groups to insure no impacts to cultural properties.
- 8 – Although a limited site investigation indicated a low risk/potential for UXO at one of the Mesa Del Sol sites, an investigation, assessment, and other necessary steps would be employed to identify and remove any potential UXO prior to commencing construction activities at any of the sites.

Section 3.0 Affected Environment

This section of the EA provides a description of the existing environment within the areas that comprise the alternatives developed to implement the proposed action (see Section 2.3).

3.1 Land Use/Zoning

Land use is defined in many ways, but can generally be defined as the various ways in which land may be employed, occupied, used, or developed for use. Uses are generally classified as urban, rural, agricultural, forested, etc. with more specific sub-classifications made for specific purposes (e.g., low-density residential, light industrial, commercial etc.). As with other resources, land is not available in unlimited quantities. Because of this, land use must be properly planned and controlled. The CEQ regulations recognize this need for the rational management of land resources and have provided for a specific consideration of the relationship of a changed pattern in land uses, which requires knowledge and understanding of existing and projected land capabilities and land use patterns. Land use patterns are natural or imposed configurations resulting from spatial arrangement of the different uses of land at a particular time. Land use patterns typically evolve as a result of: (1) changing economic considerations inherent in the concept of highest and best use of land, (2) imposing legal restrictions on the uses of land (zoning), and (3) changes in existing legal restrictions (zoning variances). The critical consideration is the extent to which any changes in land use patterns resulting from implementation of an action are compatible with existing adjacent uses and are in conformity with approved or proposed land use plans.

3.1.1 Mesa Del Sol Sites

The three proposed sites within the planned Mesa Del Sol development have no City of Albuquerque land use designation, however, the area is zoned as a Special Neighborhood Zone, Redeveloping Area/Planned Community (SU-2). Within the Mesa Del Sol planned development, the parcels of land are located in an area designated as the Employment Center. The Employment Center consists of areas designated as Office and Research and Development (primarily office, research and development, with some light industrial). Surrounding land use also has no City of Albuquerque designation and is zoned as SU-2. All three Mesa Del Sol Sites are within the Sandia National Laboratories emergency planning zone (EPZ) (Sandia National Laboratories/New Mexico 2005).

3.1.2 Eubanks Site

The Eubanks site land use is designated by the City of Albuquerque as Vacant. Surrounding land use includes Utilities designation to the north, Vacant designations to the south and east, and Public/Institutional designation to the west. Zoning for the Eubanks site is designated By

the City of Albuquerque as Industrial Park Zone (IP), with lands to the north also designated as IP. Lands to the south and east have no City of Albuquerque zoning designation, however the lands are designated by Bernalillo County as Agriculture (A-1). There are no City or County zoning designations for lands to the west (i.e., Kirtland AFB). The Eubanks Site is within the Sandia National Laboratories EPZ (Sandia National Laboratories/New Mexico 2005).

Controlling land use near military airfields is important to minimize the damage from potential aircraft accidents and to reduce hazards to air navigation. As such, the Department of Defense (DOD) has delineated Accident Potential Zones (APZs) in the vicinity of airfield runways where, if a problem developed, an aircraft mishap would likely occur. Studies show that most mishaps occur on or near the runway or along the extended centerline of the runway.

While the possibilities of an aircraft mishap are remote, the military recommends that land uses with APZs be minimal or low density to ensure maximum protection of public health and property. The development of APZs gives planners a tool to promote development compatible with airfield operations. There are three types of APZs. The Clear Zone has the greatest accident potential and is an area where no structures except navigational aids and airfield lighting are allowed. Various industrial, manufacturing, and agricultural land uses are generally acceptable within APZ I. The accident potential in APZ II is low enough that low-density housing and commercial uses are compatible with flight operations. The southern portion of the Eubanks Site is in the Kirtland AFB/Albuquerque International Sunport APZ II.

3.2 Traffic/Transportation

3.2.1 Mesa Del Sol Sites

In the vicinity of the three Mesa Del Sol sites, Interstate 25 can be found running primarily north/south approximately 2.0 to 2.5 miles to the west. As mentioned earlier, the Mesa Del Sol area is largely undeveloped, as such; access to the area is fairly limited. Bobby Foster Road (which can be accessed off Broadway Boulevard, west of Interstate 25) provides the only real access in the area including access to the nearby Journal Pavilion Amphitheater and the Albuquerque International Dragway (via Dragway Road). Bobby Foster Road begins at an intersection with Broadway, west of Interstate 25 and continues on an overpass bridge structure over Interstate 25, widening to three lanes with a lane added east of Interstate 25. This added lane has been striped as a westbound lane. As Bobby Foster Road progresses further north/east it becomes primarily one lane in each direction. There is no New Mexico Mid-Region Council of Governments (MRCOG) road classification for Bobby Foster Road. 2004 vehicle per day (vpd) traffic counts on the segment of Bobby Foster Road closest to Interstate 25 was 2,400. An existing paved road also provides access to the Mesa Del Sol area (intersecting/crossing Bobby Foster Road) from the Kirtland AFB south gate.

Several improvements to the existing transportation network in the vicinity of Mesa Del Sol are programmed in the MRCOG Metropolitan Transportation Plan (MTP) and in the MRCOG Transportation Improvement Program (TIP). These improvements were based on current projections of transportation needs without the Mesa Del Sol Master Planned Community development. The MTP is a long-range transportation planning document, projecting planned projects over a 20 year planning horizon, currently through 2025. The TIP is a short-range transportation planning document, programming planned projects for the upcoming six years, presently for 2004 through 2009.

Two major roadway projects programmed in the TIP are in the vicinity of Mesa Del Sol; both would dramatically improve access to the area and would accommodate the traffic demands for the first years of development. These improvements were detailed and documented in the Mesa Del Sol Community Master Plan, Level A Plan developed by Forest City Covington (Forest City Covington 2005). The most pertinent improvements include the Rio Bravo/University Boulevard Extension and the Mesa Del Sol Boulevard Interchange off Interstate 25.

University Boulevard is an existing four lane minor arterial roadway that extends south from the Albuquerque International Sunport to Rio Bravo Boulevard, intersecting with Rio Bravo Boulevard just east of its interchange with Interstate 25. The existing University Boulevard is classified by the MRCOG as a Minor Arterial Road. University Boulevard is four lanes (two in each direction) and had a 2004 vpd count of 6,300 at the segment closest to Interstate 25. The extension of University Boulevard was the subject of a separate study and project performed by the City of Albuquerque. The extension of University Boulevard would extend from Rio Bravo Boulevard south of the Albuquerque International Sunport diagonal runway and connect to Bobby Foster Road north of Mesa Del Sol. The extension of University Boulevard is currently under construction with completion expected by August 2006. The extension of University Boulevard is designed as a four-lane urban road to include curb and gutter and a raised median separating north and southbound lanes.

The Rio Bravo/University Boulevard Extension would provide initial access to the Mesa Del Sol Master Planned Community for the first phase of development and would continue to serve as the primary north/south arterial (with access to/from Interstate 25) in the future. The extension would provide the closest access to the Mesa Del Sol Employment Area and the three Mesa Del Sol sites under consideration. As mentioned earlier, the extension is designed as a four-lane road; however, for the first few years it could only be one lane in a given direction depending on volume (Yasmer 2005).

The Mesa Del Sol Boulevard Interchange off Interstate 25 is designed to provide the main entrance into the Mesa Del Sol Master Planned Community. Mesa Del Sol Boulevard is planned to begin at Broadway Boulevard west of Mesa Del Sol, and extend over or under Interstate 25 into the development. The new interchange is proposed to be located on Interstate 25

approximately 1.8 miles south of the existing Bobby Foster Road overpass. The configuration and exact location of the interchange has not yet been determined and construction is planned to begin within the next two to three years with expected completion in three to four years.

As part of developing the Mesa Del Sol Community Master Plan, Level A Plan, extensive traffic modeling was done for both off-site and on-site projected traffic. The following discussion will summarize and focus primarily on the Rio Bravo/University Boulevard Extension findings because it is the road that, when constructed, will provide initial access to the development as a whole and the primary access point for the three Mesa Del Sol sites under consideration. Additional detail for other modeling can be found in the Mesa Del Sol Community Master Plan, Level A Plan (Forest City Covington 2005).

Traffic demand modeling as detailed in the Mesa Del Sol community Master Plan, Level A Plan was accomplished using the regional travel demand computer model maintained by the MRCOG. The model was used to estimate traffic loads, capacity needs, and network impacts associated with the proposed Mesa Del Sol development. The analysis was predicated on several scenarios:

- 2005 Existing Scenario (existing conditions with no development at Mesa Del Sol)
- 2025 No Build Scenario (projected conditions over the next years with no development of Mesa Del Sol)
- 2025 Phased Development Scenario (projected conditions with phased development of Mesa Del Sol)
- Build Out Scenario (projected conditions for the circulation system at Mesa Del Sol as it will ultimately be built)

Of these, there are two "build scenarios of interest (1) one depicting both on-site and off-site projected impacts for the year 2025 (2025 Phased Development Scenario), and (2) another depicting on-site capacity needs at build out (Build Out Scenario). The other two scenarios are "baselines" to provide a basis for comparison.

As part of the study, a capacity analysis/projection was conducted for roads in the immediate area. The numbers generated represented the total average daily traffic (ADT) projected for a given segment of road and a corresponding level of service (LOS) with estimated average vehicle delay. The 2002 Highway Capacity Manual (HCM) defines LOS as shown in Table 3-1. A LOS of D is generally considered acceptable in urban areas and is the desirable base condition for analysis in a traffic study.

The LOS projections for the University Boulevard Extension under the 2025 Phased Development Scenario and the 2025 Build Out Scenario are shown in Table 3-2. Only deficiencies (LOS of E or F) are presented, all other road segments in the area were projected to be at an acceptable LOS (LOS of D or better).

Table 3-1. Level of Service Definitions.

Level of Service (LOS)	Definition
A	Most vehicles do not stop
B	Some vehicles stop
C	Significant numbers of vehicles stop
D	Many vehicles stop
E	Limit of acceptable delay
F	Unacceptable delay

Source: Highway Capacity Manual 2002

Table 3-2. Projected LOS for University Boulevard Extension, 2025 Phased Development Scenario and 2025 Build Out Scenario.

Scenario Segment of Road	Projected Year 2025 LOS	
	AM	PM
2025 Phased Development University Extension	E	F
2025 Build Out Scenario University Extension	F	F

Source: Forest City Covington 2005

As indicated by the table, it is projected that by the year 2025, the University Boulevard Extension will be congested with the addition of Mesa Del Sol traffic. The ADT in 2025 is predicted to range from 38,000 to 40,000. Peak hour volumes are predicted to be 2,097 in the AM peak hour and 2,360 in the PM peak hour. A variety of things could change this classification and improve traffic and the projected LOS by 2025. Several examples include the possible reclassification of University Boulevard from a Minor Arterial Road to a Principal Arterial Road, as well as some diversion of traffic from vehicles to future transit opportunities in the area. Additional analysis/review is to be conducted in future Level B and C documents as development progresses throughout the years (Forest City Covington 2005).

3.2.2 Eubanks Site

The primary transportation corridor in the vicinity of the Eubanks site is Interstate 40 which runs in a northwest/southeast direction approximately 2.0 miles north of the site. The closest major intersection is Southern Avenue (running east/west) and Eubanks Boulevard (running north/south). Eubanks Boulevard, from Southern Avenue to approximately 200 feet south of the Kirtland AFB Eubanks Gate (approximately .85 miles), has recently been upgraded to a six-lane divided road (three lanes in each direction with turn lanes). The upgrade of Eubanks Boulevard was programmed in the MRCOG MTP and TIP. Eubanks Boulevard is classified by the

MRCOG as a Principal Arterial Road. It is this road that that would provide primary access to the site and the future extension of Eubanks Boulevard further south to the site is consistent with the long range policy for streets and highways in the Albuquerque area.

An EA was prepared by the City of Albuquerque and the DOE for the proposed expansion of Eubanks Boulevard from four lanes to the current six lanes (City of Albuquerque/DOE 2002). The project was undertaken to provide improved access to major employment destinations (i.e., improved access at the Eubanks Gate, the Sandia National Laboratory complex, and to improve access to the rapidly developing Sandia Science and Technology Park on the east side of Eubanks Boulevard, DOE property on the west side of the road, and other new development proposals south of the Eubanks Gate), increase the existing transportation system capacity, and to increase safety.

South of the Eubanks Gate, beyond the recent improvements, Eubanks Boulevard proceeds for an additional 400 to 500 feet with two lanes running north (reduced to one lane running north and one lane for a westerly turn at the Eubanks Gate) and one lane running south. Eubanks Boulevard, south of the Eubanks Gate, ends in a dead-end just past development at the Sandia Science and Technology Park to the east and the planned tie-in with Innovation Drive (just north of the PNM electrical substation).

The entire Eubanks Boulevard corridor, south of Central Avenue is a major destination within southeast Albuquerque. South of Southern Boulevard, the Kirtland AFB Eubanks Gate accommodates approximately 4,000 morning and evening commute vehicles, as well as numerous off-peak trips. Development proposals south at the adjacent Sandia Science and Technology Park and further south of the Eubanks Gate are projected to increase employment in the area by up to 1,500 jobs at full build-out. As part of the Eubanks expansion EA, traffic projections were prepared for the year 2020. According to the EA, the vpd volume on Eubanks Boulevard, south of Southern Avenue, was 15,000 in 2000. Forecasted 2020 volumes for the same segment of Eubanks Boulevard (based on planned development in the area including the Sandia Science and Technology Park and lands further south of the Eubanks Gate) indicated a projected daily volume of 19,300 vpd. According to the MRCOG, 2004 vpd volumes were 17,800 along Eubanks Boulevard south of Southern Boulevard. As part of the EA, a capacity analysis was conducted for each of the major intersections in the immediate area. The traffic analysis generally followed the methodology discussed previously in Section 3.2.1.

The LOS projections outlined in the EA for the expansion of Eubanks Boulevard from four lanes to six lanes are shown in Table 3-3. As mentioned earlier, Eubanks Boulevard has been expanded to six lanes, therefore the projected LOS serve as the baseline at the listed intersections by the year 2020. It is important to note that the projections took into account expected growth/development in the immediate area by the year 2020 and the associated traffic.

Table 3-3. Projected LOS at Intersections Near the Eubanks Site.

Segment of Road/Intersection	Projected Year 2020 LOS	
	AM	PM
Eubanks Blvd./Eubanks Gate	F	F
Eubanks Blvd./Opportunity (Gibson Ave.)	F	B
Eubanks Blvd./Innovation Drive	F	C
Eubanks Blvd./Southern Avenue	E	D

Source: City of Albuquerque/DOE 2002

As indicated by the table, even with the Eubanks Boulevard expansion to six lanes as it currently exists, LOS at most intersections would be below a satisfactory level during at least one peak period by the year 2020. The EA noted that the Eubanks Boulevard/Eubanks Gate intersection was difficult to assess during the AM peak commute period because traffic operations are dependent upon the flow rate associated with the Kirtland AFB security screening level. The excessive queues associated with the Eubanks Gate were also projected to cause signal cycle and queue failures at all remaining intersections, with the exception of the Eubanks Boulevard/Southern Avenue intersection, during the morning commute. LOS projections would not be anticipated to improve in the area unless a solution was developed and implemented for improved base access at the Eubanks Gate (City of Albuquerque/DOE 2002).

3.3 Utilities

Existing utilities and/or access to available utilities in a given area as well as the capacity of utilities to accommodate additional demand is important in the development of land. Utilities can include potable water, electrical, and natural gas supply; stormwater collection; sewage collection; and solid and/or hazardous waste collection and disposal.

Water supply and sewage collection in the area of the three Mesa Del Sol Sites and the Eubanks Site is provided by the City of Albuquerque. The City of Albuquerque, Solid Waste Management Department also provides collection and disposal of solid waste as well as providing recycling services to commercial entities in the area. Hazardous waste (petroleum products, batteries, bulk liquids, etc.) collection and disposal is not provided by the City of Albuquerque, however, there are multiple commercial entities in the Albuquerque area that provide these services. PNM provides both natural gas and electrical supply in the area. Because the Mesa Del sol area is largely undeveloped, stormwater collection in the area is generally via sheet drainage. With planned development of the area, sheet drainage will give way to engineered storm drains where applicable. Stormwater collection in the area of the Eubanks Site is generally via sheet drainage to engineered storm drains. The City of Albuquerque, Storm Drainage Design Division is responsible for ensuring the effectiveness of the drainage system within the City of Albuquerque and to safeguard the quality of the stormwater runoff discharging into the Rio Grande.

As mentioned earlier, directly north of the Eubanks site is a PNM electrical substation (also known as the Sandia Substation). Power is provided from the Sandia Substation to multiple entities and surrounding areas (including Kirtland AFB, Sandia Laboratories, etc.) via a series of overhead feeder transmission lines. The majority of these overhead lines traverse south from the substation, as such, multiple transmission line supports/structures can be found throughout the Eubanks site.

3.4 Outdoor Air Quality

The Clean Air Act (CAA) (42 USC 7401–7671q), as amended, provides the framework for federal, state, tribal, and local rules and regulations to protect air quality. The CAA gives the USEPA the responsibility to establish the primary and secondary National Ambient Air-quality Standards (NAAQS) (40 CFR §50) that set safe concentration levels for six criteria pollutants: particulate matter measuring less than 10 microns in diameter (PM₁₀ and PM_{2.5}) sulfur dioxide (SO₂), carbon monoxide (CO), nitrous oxides (NO_x), ozone (O₃), and lead (Pb). Primary NAAQS are established to protect public health, and secondary standards provide protection for the public welfare, which includes wildlife, climate, transportation, and economic values (Table 3–4). Additionally, the USEPA also has responsibility for ensuring that air quality standards are met to control pollutant emissions from mobile (i.e., vehicles) and stationary (i.e., factories) sources. Each state has the authority to adopt standards stricter than those established under the federal program; however, the New Mexico Environment Department's Air Quality Bureau (aqb) accepts the federal standards.

Under the authority of the CAA and subsequent regulations, the USEPA has divided the country into geographical regions known as Air Quality Control Regions (AQCRs) to evaluate compliance with the NAAQS. Areas that violate NAAQS are designated as “nonattainment” areas, and areas that comply with air-quality standards are designated “attainment” areas for the relevant pollutants. “Attainment/maintenance” areas are areas that have previously been designated “nonattainment,” and have subsequently been redesignated to “attainment,” for a probationary period, due to complying with the NAAQS.

The CAA contains the legislation that mandates the general conformity rule to ensure that federal actions in nonattainment and attainment/maintenance areas do not interfere with a state's timely attainment of the NAAQS. The CAA also requires federal agencies to demonstrate that their actions conducted in nonattainment and attainment/maintenance areas conform to the purposes of the State Implementation Plan (SIP). The general conformity rule divides the air conformity process into two distinct areas: (1) applicability analysis and (2) conformity determination. The applicability analysis process requires federal agencies to determine if their proposed action(s) would increase emissions of criteria pollutants above the threshold levels (40 CFR §93.153). These threshold rates vary depending on the severity of the nonattainment and geographic location (Table 3–5). *De minimis* emissions are total direct and indirect

emissions of a criteria pollutant caused by a federal action in a nonattainment or attainment/maintenance area in less than these threshold rates.

Table 3-4. National Ambient Air Quality Standards.

Air Pollutant	Averaging Time	NAAQS	
		Primary	Secondary
CO	1-hour	35 ppm	35 ppm
	8-hour	9 ppm	9 ppm
NO _x	Annual	0.053 ppm	0.053 ppm
SO ₂	3-hour	-	0.50 ppm
	24-hour	0.14 ppm	-
	Annual	0.03 ppm	-
PM ₁₀	24-hour	150 µg/m ³	150 µg/m ³
	Annual	50 µg/m ³	50 µg/m ³
O ₃	8-hour	0.08 ppm	0.08 ppm
Pb	Quarterly average	1.5 µg/m ³	1.5 µg/m ³

ppm - parts per million
µg/m³ - micrograms per cubic meter
Source: USEPA 2005

Table 3-5. Applicability Thresholds for Maintenance Areas

Criteria Pollutants	<i>De Minimis</i> Level [tpy]
O₃ (NO_x, SO₂ or NO₂)	
All maintenance areas	100
O₃ (VOCs)	
Maintenance areas inside an O ₃ transport region	50
Maintenance areas outside an O ₃ transport region	100
CO	
All maintenance areas	100
PM₁₀	
All maintenance areas	100
Pb	
All maintenance areas	25

tpy - tons per year
Source: 40 CFR §93.153

The Mesa Del Sol Sites and the Eubanks Site are all located in Bernalillo County, New Mexico, which is within the Albuquerque-Mid Rio Grande Intrastate AQCR (AQCR 152). The USEPA had

designated AQCR 152 as a nonattainment area for CO until 1996. AQCR 152 is currently designated as a limited maintenance area for CO. Through ongoing emission reduction efforts, implementation of CO control measures, and the establishment of the limited maintenance agreement, AQCR 152 has been exempted from general conformity review for CO (AQCB 2004). AQCR 152 is in attainment for all other criteria pollutants (40 CFR 80.306). Therefore, the general conformity rule does not apply and no applicability determination is required. Many CO control measures are still in place in the region to ensure the attainment status is maintained. To minimize contributions to the “brown cloud” over the mid-Rio Grande valley, fugitive particle emissions and open burning within the region are also carefully regulated.

3.5 Noise

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies according to the type and characteristics of the noise source, distance between source and receiver, and receiver sensitivity.

Sound levels are expressed in units of decibels. The term decibel (dB) implies a logarithmic ratio of the measured pressure to a reference pressure. This reference pressure refers to a pressure just barely detectable by the human ear. The human ear responds differently to sounds at different frequencies. To adjust for the different “loudness” levels as perceived by humans, a standard “A” weighting curve (dBA) is applied to measured sound levels. All sound levels discussed in this supplement are A-weighted unless otherwise noted. Table 3-6 lists some common sound levels associated with everyday activities and devices.

Many different sound metrics can be used to assess a given noise environment; the maximum noise level, the average sound pressure level, etc. However, one metric has been related to effects of noise on communities more than any other: day-night average sound level.

- **Day-Night Average Sound Level (DNL)** – DNL is a cumulative metric that accounts for the total sound energy occurring over a 24-hour period, with nighttime noise weighted more heavily to reflect community sensitivity during nighttime hours. Studies of community annoyance to numerous types of environmental noise show that DNL correlates well with percentages of groups of persons highly annoyed (HA).
- **Noise Annoyance** – Noise annoyance is defined by the USEPA as any negative subjective reaction on the part of an individual or group to a given sound environment. As noted in the discussion of DNL above, community annoyance is best measured by that metric. Most agencies have identified DNL 65 dBA as a criterion which protects those most impacted by noise and which can often be achieved on a practical basis.

Table 3-6. Common Sound Levels.

Outdoor	dBA		Indoor
Snowmobile	100		Subway Train
Tractor	90		Garbage Disposal
Noisy Restaurant	85	85	Blender
Downtown (Large City)	80		Ringling Telephone
Freeway Traffic	70		TV Audio
Power Lawn Mower	65		
Normal Conversation	60		Sewing Machine
Rainfall	50		Refrigerator
Quiet Residential Area	40		Library

Source: Harris 1998

The Noise Control Act of 1972 (PL 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. The U.S. Department of Housing and Urban Development (HUD) and the USEPA have both identified and adopted noise levels to protect public health and welfare with an adequate margin of safety.

- **USEPA** – recommends a maximum DNL of 65 dBA for outdoor activities in order that the general population will not be at risk from any of the effects of noise (USEPA 1974). This level takes into account both human perceptions of noise as well as fiscal and technological considerations.
- **HUD** – has determined residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where the noise exposure exceeds a day-night level (DNL) of 75 dBA, “normally unacceptable” in regions exposed to noise between the DNL of 65 to 75 dBA, and “normally acceptable” in areas exposed to noise where the DNL is 65 dBA or less.

Existing noise conditions in the area of the three Mesa Del Sol sites are predominantly influenced by sounds common to a sparsely developed/developing area in any city, however, because of the undeveloped nature of the immediately surrounding area, there are fewer

contributing factors and greater distances involved. The Albuquerque International Dragway can be found generally to the north or west of the three Mesa Del Sol sites and is likely a contributing factor on weekends or during scheduled events. Existing noise conditions at the Eubanks Site are predominantly influenced by sounds common to an already developed/developing area in any city. Existing noise conditions in the area are also influenced by operations at nearby Kirtland AFB, the Albuquerque International Sunport, and development/improvements in the area. Prevailing traffic in the immediate area is also a contributing factor. According to the Kirtland AFB/Albuquerque International Sunport airfield noise contour mapping, the Eubanks Site is just outside the 65 dBA noise contour. Based on the factors discussed above, it is estimated that a background DNL in the area of all sites would be approximately 55 and 65 dBA (USEPA 1974). There are no sensitive noise receptors (e.g., schools, hospitals, nursing homes, etc.) in the immediate vicinity of any of the sites

3.6 Water Resources (surface water, groundwater, and floodplains)

Water resources are vulnerable to contamination and quality degradation. For this reason, the Federal Water Pollution Control Act (FWPCA), as amended by the Clean Water Act (CWA) of 1977, was enacted to protect these valuable, irreplaceable resources. The Water Pollution Prevention and Control Act (33 USC 26), also known as the CWA Amendments, set the national policy objective to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The FWPCA provides the authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges (Section 402) and for dredged or fill material (Section 404). A NPDES permit under Section 402 of the CWA is required for discharges into navigable waters; a Section 404 permit is required for dredged or fill material in navigable waters; and a Section 10 permit under the Rivers and Harbors Act of 1899 is required for obstruction or alteration of navigable waters. “Navigable waters” have been very broadly defined in USEPA regulations (40 CFR §230) and encompass most bodies of water (including wetlands) and their tributaries. The USEPA is charged with the overall responsibility for Section 402 permits; the U.S. Army Corps of Engineers (USACE) has responsibility for Section 404 permits; and the U.S. Coast Guard has responsibility for Section 10 permits. The New Mexico Environmental Department oversees water quality regulations for both surface and groundwater within the state.

Jurisdictional waters, including surface water resources (rivers, streams, tributaries, lakes, wetlands, on-channel ponds, etc.) as defined in 33 CFR §328.3, are regulated under Sections 401 and 404 of the CWA and Section 10 of the Rivers and Harbors Act. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters.

Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for saturated soil (Environmental Laboratory 1987). Waters of the United States (Section 328.3[2] of the CWA) are those waters used in interstate or foreign commerce, subject to ebb and flow of tide, and all interstate waters including interstate wetlands. Waters of the United States are further defined as all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, impoundments of waters, arroyos, tributaries of waters, and territorial seas.

Executive Order (EO) 11988 (Floodplain Management) requires each federal agency: (1) to evaluate the potential effects of any action it may take in a floodplain, (2) to ensure that its planning reflects consideration of floodplain management and flood hazards, and (3) to prescribe procedures to implement flood protection procedures as prescribed by the EO. The EO also prescribes particular requirements for federal real property agencies. These requirements include requiring that federal structures and facilities be constructed in accordance with the standards in the National Flood Insurance Program. A 100-year flood (intermediate regional flood) is defined as a flood level that occurs with an average frequency of once in 100 years at a designated location, although it may occur any year, even two years in a row. The Federal Emergency Management Agency (FEMA) is responsible for implementation and management of the National Flood Insurance Program under 44 CFR; however, local government (e.g., the City of Albuquerque) is responsible for administration of the floodplain within its respective borders. FEMA regulates the impact of vertical development on surface water elevation and flood limits within the floodplain.

3.6.1 Surface Water

There are no surface water features prevalent at the three Mesa Del Sol sites or the Eubanks Site, however, the Tijeras Arroyo can be found just north of the Mesa Del Sol Sites and south of the Eubanks Site. Arroyos are a contributing element in the natural drainage in the Albuquerque area. Arroyos carry runoff from the Sandias and West Mesa to the Rio Grande and are dry most of the year. Arroyos flow most heavily in the summer when the warm, moist, tropical air masses from southern California and the Gulf of Mexico mix over the Sandias. Originally, arroyos meandered freely across the area responding to the volume and velocity of stormwater runoff creating large floodplains and alluvial fans. Natural arroyos are generally rich in plant life due to the soil moisture that remains after runoff events. However, only a few sections of arroyos have been preserved as natural channels in the Albuquerque metropolitan area.

The Tijeras (meaning "scissor") Arroyo is located at the southeastern edge of the currently urbanized metropolitan area, lying mainly within lands designated by the City of Albuquerque

as Developing Urban or Existing or Proposed Major Open Space. The Tijeras Arroyo is bordered on the south by Kirtland AFB and the Mesa Del Sol Master Planned Community. The Tijeras is Bernalillo County's largest arroyo, with a wide floodplain, deeply cut channel and steep side slopes composed of rock and sand. The watershed of the Tijeras Arroyo is a mountainous, 130-square mile area lying generally east of Albuquerque (City of Albuquerque 1986).

A publication entitled Facility Plan for Arroyos was developed and implemented by the City of Albuquerque in 1986 (City of Albuquerque 1986). The goal of the Plan was to establish guidelines and procedures for implementing the goals of the City's Comprehensive Plan in order to create a multi-purpose network of recreational trails and open space along arroyos. The Plan designated and scheduled a limited number of arroyos for further study and development as recreational corridors. The Plan designated portions of the Tijeras Arroyo as a Major Open space Arroyo. These areas generally reach from Montessa Park (just north of the Mesa Del Sol Planned Community) east to the Four Hills Golf Course (east of the Eubanks site). The Plan states that Open Space Arroyos are to remain in a natural or semi-natural condition with native vegetation and channel stabilization consisting primarily of naturalistic treatments such as ungrouted riprap and gabions. The existing open space characteristic of these arroyos is to be preserved to the greatest extent feasible in order to provide visual relief from urbanization and to protect the natural drainage process (City of Albuquerque 1986).

3.6.2 Groundwater

Both the Mesa Del Sol Sites and the Eubanks Site are located in the Basin and Range Physiographic Province, underlain by the Rio Grande Aquifer System. The Rio Grande Aquifer System consists of a network of hydraulically interconnected aquifers in basin-fill deposits located along the Rio Grande Valley and nearby valleys. Recharge to the Rio Grande Aquifer System primarily originates as precipitation in the mountainous areas that surround the basins. Runoff from snowmelt or rainfall enters the basins and generally flows for short distances across permeable alluvial fans before the water percolates downward through streambeds or evaporates.

Groundwater discharges from the Rio Grande Aquifer System by evapotranspiration, withdrawal from wells and drains, discharge to streamflow, and underflow. In the arid climate of New Mexico, rates of evapotranspiration are large, and water is readily lost by evaporation from moist soil, water surfaces, and by transpiration from vegetation. Groundwater withdrawal primarily occurs as discharge from pumping wells. Public water supplies for most cities and communities in the area rely on groundwater. Groundwater discharges to the Rio Grande and its tributaries along much of the length of the river, and discharge to streamflow is an important component of groundwater discharge.

Groundwater levels in the Rio Grande Aquifer System range in altitude from more than 8,000 feet in the northern part of the aquifer system to less than 3,800 feet in the southern part (near El Paso, Texas). Although large differences in water-level altitude are present across the aquifer system, groundwater flow primarily is controlled by differences in water levels within individual basins. Depth to water in an unconfined part of the aquifer that overlies the confining unit ranges from 0 to about 100 feet below land surface. Water levels in wells in the confined part of the aquifer generally are higher than those in the unconfined part, and flowing wells are present in the lower part of the valley. In many low-lying areas of the Rio Grande Valley, water levels are higher in deep wells than in shallow wells; flowing wells also are present in some of these areas.

The chemical composition and dissolved-solids concentration of water in the Rio Grande Aquifer System are affected by the quality of the water that enters the aquifer, the type and solubility of minerals present in the basin fill, and the quantity of water lost by evaporation and transpiration. Water in the aquifer system is of varied chemical composition, in part because of the varied geology of the nearby mountains. Surface water in the Rio Grande in the reach from the headwaters to near Albuquerque generally has a small dissolved-solids concentration and contains a preponderance of calcium, bicarbonate, and sulfate ions. This water is classified as a calcium bicarbonate or calcium sulfate type. As groundwater flows through the basin fill, soluble minerals such as calcite and dolomite (calcium and magnesium carbonates), gypsum (calcium sulfate), halite (rock salt), and many other minerals are dissolved from the sediments. This dissolution increases the dissolved-solids concentration of the groundwater and may alter the chemical composition of the water. Clay minerals also may alter the composition of the water through the process of cation exchange. Water in the aquifer system ranges from soft to very hard, but softer water is more prevalent in parts of the aquifer system in northern and southwestern New Mexico. Water loss to evapotranspiration has an important effect on groundwater quality in areas of irrigated agriculture, near playas, and other areas of shallow water table. Evapotranspiration removes water from the aquifer or the soil but does not remove the minerals that formerly were dissolved in the water. These minerals can accumulate in the soil to form alkali deposits or salt flats or can be flushed from the soil by infiltration of precipitation or irrigation water.

Withdrawals of freshwater from the Rio Grande Aquifer System totaled about 1,200,000 acre-feet during 1985. Agriculture used about 900,000 acre-feet or about 77 percent of the groundwater withdrawn. Public supply, primarily for the cities of Albuquerque, Las Cruces, and Santa Fe used about 180,000 acre-feet or about 15 percent of the groundwater withdrawn. Domestic and commercial, and industrial, mining, and thermoelectric power uses constituted the remaining approximately 8 percent (U.S. Geological Survey [USGS] 1995).

3.6.3 Floodplains

The Mesa Del Sol Sites and the Eubanks Site are located in areas designated by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program, Flood Insurance Rate Map (FIRM) as being in Zone X. Zone X is defined as areas determined to be outside the 0.2 percent annual chance floodplain (FEMA 2003).

3.7 Biological Resources

Biological resources play an integral role in the natural environment. The CEQ (1993) recognizes that biological resources, and from them biodiversity, are "...not a series of unconnected elements, and that the richness of the mix of elements and the connections between those elements are what sustains the system as a whole." The Endangered Species Act of 1973 (PL 93-205), as amended, was enacted to provide a program of preservation for endangered and/or threatened species and to provide protection for ecosystems upon which these species depend for their survival. The U.S. Fish and Wildlife Service (USFWS) is responsible for implementing the Endangered Species Act within the United States and its territories. The USFWS and the New Mexico Department of Game and Fish (NMDGF) maintain protected species lists (endangered, threatened, proposed candidate, or species of concern) for species that occur or could potentially occur within a given county.

3.7.1 Flora and Fauna

The three Mesa Del Sol Sites and the Eubanks Site are located within the Arizona/New Mexico Plateau ecoregion as defined by the USEPA. This ecoregion represents a large transitional region between the semiarid grasslands and low-relief tablelands to the east; the drier shrublands and woodland-covered, higher-relief tablelands to the north; the lower, hotter, less-vegetated Mojave Basin and Range to the west; and the Chihuahuan Deserts to the south. Higher, more forest-covered, mountainous ecoregions border the region to the northeast and southwest. Topographic relief in the region varies from a few feet on plains and mesa tops to well over 1,000 feet along tableland side slopes. Vegetation communities include shrublands, and grasslands. Higher elevations may support pinyon pine (*Pinus edulis*) and juniper forests.

Based on Dick-Peddie's (1993) classification and map of the vegetation types of New Mexico, the sites are generally in an area of Plains-Mesa Sand Scrub vegetation type. Although Dick-Peddie (1993) classifies the area as a scrubland, the primary vegetation covering the sites and surrounding area is grasses. The surrounding grasslands are influenced primarily by the Chihuahuan Desert and the Great Basin biotic provinces, with some influence from the Great Plains. The influence of the Chihuahuan Desert is typified by the presence of black grama (*Bouteloua eriopoda*) as a dominant or codominant species throughout much of the area. Additional grasses found can include galleta (*Hilaria jamesii*), sand dropseed (*Sporobolus*

ciyptandrus), spike dropseed (*Sporobolus contractus*), mesa dropseed (*Sporobolus ilexuosus*), purple three-awn (*Aristida purpurea*), Indian ricegrass (*Olyzopsis hymenoides*), ring muhly (*Muhlenbergia torreyi*), ear muhly (*Muhlenbergia arenacea*), and bush muhly (*Muhlenbergia porteri*). The dominant shrub species in the grassland areas are sand sagebrush (*Artemisia filifolia*), fourwing saltbush (*Atriplex canescens*), and winterfat (*Eurotia lanata*). Other common shrubs and subshrubs are broom snakeweed (*Gutierrezia sarothrae*), cane cholla (*Opuntia imbricata*), soapweed yucca (*Yucca glauca*), and Mormon tea (*Ephedra torreyana*). In disturbed areas, invasive species (weeds) such as Russian thistle (*Salsola kali*), kochia (*Kochia scoparia*), tumble mustard (*Sisymbrium altissimum*), globemallow (*Sphaeralcea* sp.), and goathead (*Tribulus terrestris*) can occur. While these sites historically may have been dominated by this vegetation type, past site activities such as grazing have disturbed and altered the dominant vegetation. Several small areas within the Mesa del Sol Sites may still contain the dominant native grasses characteristic of the Plains-Mesa sand scrub vegetation type. The Eubanks Site however is dominated primarily by bare ground and scattered brush.

Over 139 mammal species are native to New Mexico, and many of these species and their named subspecies are endemic to the region. Animal distributions within New Mexico are affected by general climatic zones such as significant north-south gradients in temperature and precipitation. Within this vegetation type, most commonly found wildlife expected to occur would include small mammals such as the Gunnison's prairie dog (*Cynomys gunnisoni*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*) and several types of mice. Gunnison's prairie dogs are particularly abundant in the area. Birds commonly found in the area can include the Western meadowlark (*Sturnella neglecta*), Western kingbird (*Tyrannus verticalis*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), American robin (*Turdus migratorius*), black-throated sparrow (*Amphispiza bilineata*), scaled quail (*Callipepla squamata*), mourning dove (*Zenaida macroura*), Northern mockingbird (*Mimus polyglottos*), common raven (*Corvus corax*), and other birds associated with high desert grassland habitat. Little striped whiptail lizards (*Cnemidophorus inornatus*) could also be expected throughout the area. During field reconnaissance conducted as part of this effort, several small animal burrows were observed at the sites.

3.7.2 Threatened and Endangered Species

A total of fifteen species are federally and/or state listed as threatened or endangered for Bernalillo County, New Mexico (Table 3-7). Of these species, critical habitat has been designated by the USFWS for the Rio Grande silvery minnow, the Mexican spotted owl, and the southwestern willow flycatcher. Due to the nature of the sites and the habitat requirements of the listed species, suitable habitat does not occur within any of the sites for any of the listed species. The sites are also not located within any of the designated critical habitats for the three listed species. Although no species-specific surveys were performed during the field

reconnaissance effort, no protected species were observed during the site visits. The potential for protected species to utilize the sites is minimal, based on the lack of suitable habitat.

Table 3-7. State and Federally Listed Threatened and Endangered Species Listed for Bernalillo County.

Species	Federal Status	State Status	Description of Suitable Habitat	Habitat Present?
Fish				
Rio Grande Silvery Minnow (<i>Hybognathus amarus</i>)	E, h	E	This species is restricted to the middle Rio Grande valley between Cochiti Dam and the headwaters of Elephant Butte Lake.	No
Birds				
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	DL	T	In New Mexico, American peregrine falcons are found on rocky, steep cliffs near water. This subspecies is native to N. America south of the arctic tundra, and tends to overwinter in the southern U.S., Central America and the Caribbean	No
Baird's Sparrow (<i>Ammodramus bairdii</i>)	---	T	In winter, they migrate to southeastern Arizona east to southwestern Texas and northern Mexico. It depends upon dry, short-grass prairie habitat with small, scattered shrubs and matted vegetation	No ¹
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	T-PDL	T	Nests and winters near rivers, lakes and along coasts; nest in tall trees or on cliffs near large bodies of water.	No
Bell's Vireo (<i>Vireo bellii</i>)	---	T	This species prefers to nest in low, dense, scrubby vegetation in areas of early succession and is particularly dependent on corridors of habitat along rivers and streams.	No
Common Black-hawk (<i>Buteogallus anthracinus anthracinus</i>)	---	T	Generally these birds inhabit lowland areas, with a source of water nearby where crabs, crayfish, or other aquatic foods are found, usually with trees nearby for roosting and nesting. It is characteristically found in the Southwest in cottonwood (<i>Populus</i> spp.) and other woodlands along permanent lowland streams.	No
Gray Vireo (<i>Vireo vicinior</i>)	---	T	Breeds in some of the hottest, driest areas of the American Southwest, favoring dry thorn scrub, chaparral, and pinyon-juniper and oak-juniper scrub, in arid mountains and high plains scrubland.	No ²
Mexican Spotted Owl (<i>Strix occidentalis lucida</i>)	T, h	---	Mixed-conifer forests are commonly used throughout most of the range which may include Douglas-fir and/or white fir, with co-dominant species including southwestern white pine, limber pine, and ponderosa pine; understory often contains the above coniferous species as well as broadleaved species such as Gambel oak, maples, box elder, and/or New Mexico locust; nest and roost primarily in closed-canopy forests or rocky canyons on cliff ledges, in stick nests built by other birds, on debris platforms in trees, in tree cavities, and caves, but the majority of nests appear to be in trees.	No
Neotropic Cormorant (<i>Phalacrocorax brasilianus</i>)	---	T	Breeds and is a variable resident in the Rio Grande Valley at Elephant Butte and Caballo lakes, also occurs regularly at Bosque del Apache National Wildlife Refuge. In New Mexico, generally found on larger bodies of water such as reservoirs, where they prey on fish. Require stands of trees or shrubs in or near water and that are free from human disturbance for nesting.	No

Table 3-7 (continued). State and Federally Listed Threatened and Endangered Species Listed for Bernalillo County.

Species	Federal Status	State Status	Description of Suitable Habitat	Habitat Present?
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	E, h	E	Breeds in dense riparian habitats along rivers, streams, or other wetlands. The vegetation can be dominated by dense growths of willows (<i>Salix</i> sp.), seepwillow (<i>Baccharis</i> sp.), or other shrubs and medium-sized trees. One of the most important characteristics of the habitat appears to be the presence of dense vegetation, usually throughout all vegetation layers present. Almost all breeding habitats are within close proximity (less than 20 yards) of water or very saturated soil. The breeding site must have a water table high enough to support riparian vegetation.	No
White-eared Hummingbird (<i>Hylocharis leucotis borealis</i>)	---	T	Irregular summer visitor to extreme southeastern Arizona; rare in New Mexico and Texas. Frequents scrub habitat in oak and pine forests and adjacent riparian habitat.	No
Whooping Crane (<i>Grus americana</i>)	E	E	Estuaries, prairie marshes savannah, grasslands, croplands, pastures -- winter resident at Aransas NWR and Matagorda.	No
Mammals				
Black-footed ferret (<i>Mustela nigripes</i>)	E	---	Originally occurred in the Great Plains from <u>Canada</u> to Texas and Arizona; usually found on shortgrass and midgrass prairies in close association with prairie dogs. When inactive, it occupies underground burrows made by a prairie dogs.	No ³
New Mexican Jumping Mouse (<i>Zapus hudsonius luteus</i>)	---	T	This subspecies is endemic to New Mexico and Arizona; they are usually found in marshes, moist meadows and riparian habitats in open prairie along permanent waterways.	No
Spotted Bat (<i>Euderm maculatum</i>)	---	T	Although not completely clear, it is believed they prefer the Ponderosa pine-bunchgrass vegetation zone of southwestern North America; preferring habitats along waterways, where there are nearby cliffs or steep hillsides.	No

E - Endangered, T - Threatened, h - critical habitat designated for species, DL - De-listed, PDL - Proposed De-listed

- ¹ While historically these site may have contained a more pre-dominate native grassland community, past site activities have altered the dominant vegetation. Several areas within the sites may still contain dominant native grasses and could potentially provide some suitable habitat for wintering sparrow. However they prefer a majority of native grasses that provide adequate concealment from predators.
- ² Prefers dry thorn scrub, chaparral areas and pinyon-juniper and oak-juniper scrub.
- ³ All sites are located within an area known to be inhabited by prairie dogs. Typically, the black-footed ferret is found in close association with prairie dogs however, the black-footed ferret is considered one of the rarest mammals in North America, once thought to be extinct, no wild populations of black-footed ferrets are known within its historic range within New Mexico.

Source: U.S. Fish and Wildlife Service, *List of Species for Bernalillo County, NM* and the *New Mexico Species of Concern Status and Distribution*, Biota Information System of New Mexico (BISON-M) April 2003, Department of Game and Fish, Conservation Services Division

3.8 Solid/Hazardous Waste and Landfills

Concerns over the improper handling and disposal of solid/hazardous waste that posed a continuing threat to the environment and a danger to human health led to the enactment of the Resource Conservation and Recovery Act (RCRA) of 1976. The RCRA replaced the Solid Waste Disposal Act and authorized the USEPA to provide for cradle-to-grave management of hazardous waste and set a framework for the management of nonhazardous municipal solid waste. Under RCRA, a waste is defined as hazardous if it is ignitable, corrosive, reactive, toxic, or listed by the USEPA as being hazardous. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986 authorize the USEPA to respond to spills and other releases of hazardous substances to the environment. It also authorizes the National Oil and Hazardous Substances Pollution Contingency Plan. Title III of SARA authorizes the Emergency Planning and Community Right-to-Know Act (EPCRA), which requires facility operators with hazardous substances to prepare comprehensive emergency plans and to report accidental releases. EO 12856 (Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, August 1993) requires federal agencies to comply with the provisions of EPCRA. The GSA Government wide Real Property Policy (41 CFR §101-116) requires that the agency "...determine the environmental condition of proposed sites prior to purchase; such sites must be free from contamination, unless it is otherwise determined to be in the best interests of the Government to purchase a contaminated site." The overriding solid/hazardous waste issue in the area of the sites is the presence of former landfills.

3.8.1 Mesa Del Sol Sites

The former South Broadway/Mesa Del Sol Landfill (City of Albuquerque, Bernalillo County Municipal Landfill) and associated Landfill Buffer Zone (1,000 feet) is located on the east side of Interstate 25, in the general area of the proposed Mesa Del Sol Interchange. The former South Broadway/Mesa Del Sol Landfill (and associated Landfill Buffer Zone) is located more than a mile west/southwest of the three Mesa Del Sol Sites. None of the waste cells at the landfill had a protective liner. The South Broadway portion of the landfill was closed in 1978 and the Mesa Del Sol portion was closed in 1989.

As part of the landfill closure, quarterly and/or annual groundwater and landfill gas monitoring (methane) has been conducted at, and in the immediate vicinity of, the landfill. Monitoring activities have been conducted in accordance with the requirements of the New Mexico Solid Waste Management Regulations (SWMR) and the South Broadway/Mesa Del Sol Landfill Closure Plan. According to the City of Albuquerque and the latest quarterly monitoring results, there is no indication of groundwater contamination from the landfill and no readings above regulatory levels. No methane monitoring results have exceeded the 25 percent lower explosive limit

(LEL). The LEL is a measure of the percent of gas in the air by volume (City of Albuquerque 2006).

3.8.2 Eubanks Site

The former South Eubanks Landfill (City of Albuquerque Municipal Landfill) occupies much of the southern/southeastern portion of the Eubanks Site. The Landfill Buffer Zone (1,000 feet) encompasses the rest of the Eubanks Site. The South Eubanks Landfill consists of two distinct fill areas: the northeast fill area and the southwest fill area. The southwest fill area stretches over a portion of the Eubanks Site. The southwest fill area was unlined and covered approximately 60 acres, with a maximum waste depth of approximately 36 to 40 feet. Both fill areas have soil covers consisting of on-site soils covered by sparse to moderate vegetation (City of Albuquerque 2003). The South Eubanks Landfill was closed in 1984.

Similar to the South Broadway/Mesa Del Sol Landfill just discussed, as part of the landfill South Eubanks Landfill closure, quarterly and/or annual groundwater and landfill gas monitoring has been conducted at, and in the immediate vicinity of, the landfill. According to the City of Albuquerque and the latest quarterly monitoring results, there is no indication of groundwater contamination from the landfill and no readings above regulatory levels (City of Albuquerque 2006a). The latest available quarterly landfill gas monitoring quarterly letter report for the former Eubanks Landfill (City of Albuquerque 2005) indicated that most of the landfill gas monitoring wells at the former Eubanks Landfill do not contain levels of landfill gas and those that do have landfill gas present, contain minimal levels. A minimal amount of landfill gas is considered less than 10 percent of the LEL. Greater than 10 percent LEL was only observed in three monitoring wells. These wells are located immediately north of the northeast fill area which is more than 2,000 feet northeast of the Eubanks Site. According to the report, these three wells have displayed landfill gas concentrations of concern in the past and should continue to be monitored. The report also concludes that landfill gas concentrations measured during the ninth quarter sampling are lower than those readings measured during the eighth quarter sampling event completed in June 2005 (City of Albuquerque 2005).

3.9 Cultural Resources and Historic Properties

The National Historic Preservation Act (NHPA) of 1966 (16 USC 470 et seq., as amended), the Archeological and Historic Preservation Act (AHPA) of 1974 (16 USC 469a et seq.), and the Archeological Resources Protection Act (ARPA) of 1979 (16 USC 470aa–470ll) are designed to ensure adequate consideration of the values of historic properties in carrying out federal activities and to attempt to identify and mitigate impacts to significant historic properties. The NHPA is the principal authority used to protect historic properties; federal agencies must determine the effect of their actions on cultural resources and take certain steps to ensure that these resources are located, identified, evaluated, and protected. 36 CFR §800 defines the

responsibilities of the state, the federal government, and the Advisory Council on Historic Preservation (ACHP) in protecting historic properties identified in a project area. 36 CFR §60 establishes the National Register of Historic Places (NRHP) and defines the criteria for evaluating eligibility of cultural resources for listing on the NRHP. The ARPA of 1979 protects archeological resources on federal lands. If archeological resources are discovered that may be disturbed during site activities, the act requires permits for excavating and removing any archeological resources. In this EA, historic properties refer to properties eligible for inclusion in the NRHP.

Cultural resources are nonrenewable resources whose value may be diminished by physical disturbances. These resources include buildings, structures, objects, landscapes, and archeological sites, as well as places of importance to a culture or community for reasons of history, religion, or science. The archeological sites may include both prehistoric and historic sites, e.g., campsites, resource use or acquisition areas, house sites, and trash deposits that may exist. An impact would be significant to cultural and/or archeological resources if project activities result in:

- the destruction or alteration of all or a contributing part of any NRHP-eligible cultural or historic property without prior consultation with the SHPO;
- the isolation of an eligible cultural resource from its surrounding environment;
- the introduction of visual, audible, or atmospheric elements that are out of character with a NRHP-eligible site or would alter its setting;
- the neglect and subsequent deterioration of a NRHP-eligible site; or
- the disturbance of important sites of religious or cultural significance to Native Americans.

3.9.1 Mesa Del Sol Sites

In February 2006 a Class III archeological survey was conducted at all three Mesa Del Sol Sites to determine the absence/presence of cultural resources at the sites. Records review and site survey of Mesa Del Sol 1 and Mesa Del Sol 3 resulted in no significant cultural resources. Records review conducted for Mesa Del Sol 2 resulted in the identification of one previously recorded site (LA 142183, Eck 2004) of Euro-American, Middle 20th Century, Probable U.S. Military cultural-temporal affinity. This site was re-located and updated as part of this effort. Site LA 142183 consists of a scatter of historic artifacts concentrated in an area approximately 165 feet by 195 feet. A total of 41 historic artifacts were found at the location in an earlier survey (Eck 2004) and many were relocated as part of this effort. There are no features and the artifact scatter is surfacial with no cultural sediments present. The artifacts suggest short-term use, perhaps related to some type of military activity. As mentioned previously, a total of 41 historic artifacts have been identified at this location, many of which were inspected during this effort. The artifacts at this site suggest a ca. 1960s date. Most of the artifacts were soda or

juice containers. The presence of four aerosol cans may be a key to the activity conducted at the site and may have contained fuel or paint. There are also three oil cans and a few fragments of small alloy metal plate material. The site remains in stable and undisturbed condition.

This site was recommended as having significance to justify NRHP nomination under Criteria "d", and was considered as potentially eligible by the New Mexico State Historic Preservation Division on March 4, 2004 (Log No. 70089). However, the site does not appear to be more than 50 years of age, nor does it have the potential research value to justify nomination to the State or NRHP. The site is a simple activity area, with no structural features or cultural sediments. The artifact materials present at the site date to the 1960s and have been described in detail (Eck 2004). It is likely that further work at this site would yield no additional information and the information potential of this site is considered to be exhausted. It is recommended that the significance and eligibility of this site be re-considered and identified as non-eligible. The information potential of this site has been exhausted and no further research or treatment is recommended. Consultation with both the New Mexico State Land Office (SLO) and the New Mexico SHPO was initiated via letter and the report detailing the February 2006 Class III archeological survey at all three Mesa Del Sol sites was submitted for review.

There are no known traditional cultural properties within or adjacent to any of the Mesa Del Sol Sites. Consultation with the tribal groups recommended by the New Mexico State Historic Preservation Division for the Bernalillo County area has been initiated by the GSA. Consultation letters were sent to Isleta Pueblo, the Hopi Tribe, Laguna Pueblo, the Navajo Nation, Sandia Pueblo, and the White Mountain Apache Tribe.

3.9.2 Eubanks Site

Investigations of this site consisted only of database/records review and review of a previous investigation done in the area of the Eubanks Site. No archeological survey was performed at the site because right-of-entry could not be obtained.

A cultural resources Class II sample survey was conducted in October 2000 as part of planning activities associated with the Sandia Science and Technology Park (Marshall 2000). As discussed previously, the Sandia Science and Technology Park is immediately north of the Eubanks Site and the 2000 reconnaissance/survey included the Eubanks Site. The investigation included a cultural resources records search and a random reconnaissance survey of approximately 20 percent of the overall Sandia Science and Technology Park area. Investigations revealed that in the area of the Eubanks Site, most of the area has been subject to previous disturbance related to the former South Eubanks Landfill. The study concluded that due to previous disturbance it is unlikely that any cultural resources are present in the area.

Similar to the previous alternative, there are no known traditional cultural properties within or adjacent to the Eubanks Site, however, consultation with tribal groups has not been initiated.

3.10 Historic Ranges, Unexploded Ordnance, and Other Weapons-Related Incidents/Occurrences

Several historical ranges exist on Kirtland AFB. UXO has been observed in multiple areas throughout these ranges, and as a result, Kirtland AFB and Albuquerque USACE personnel are currently in the early process of conducting a preliminary assessment (PA) (i.e., historic records search, interviews, etc.) to determine the probability of UXO on, and immediately adjacent to, the base. Should the results of the PA indicate the potential for UXO, additional steps would be taken including eventual remedial activities should they be necessary (Crutchfield, Henry 2006). The boundary of one of these historical ranges or the range "fan" extends off the current boundaries of the base to the west. All three of the Mesa Del Sol Sites are in close proximity to the boundaries of this historic range, with one site being completely within the boundaries (Mesa Del Sol 2), one site being bisected by the boundary (Mesa Del Sol 3), and the last site being just adjacent to the historical boundary (Mesa Del Sol 1). There are no known historic ranges identified in the area of the Eubanks Site. Because of the potential for UXO in the Mesa Del Sol area, the GSA conducted a limited site investigation (GSA 2006) as part of due diligence and in an effort to gauge the likelihood of potential UXO presenting a hazard to development of, and long-term operation at, one of the nearby Mesa Del Sol sites under consideration. Investigations were conducted at multiple "sample plot" locations within Mesa Del Sol Site 3. Although the investigation revealed a variety of debris in the area (including military debris), at varying depths, the study concluded that there is a low risk for UXO in the immediate area.

According to a variety of sources, in 1957, a B-36 Bomber was ferrying a hydrogen bomb from Biggs Air Force Base in Texas to Kirtland AFB. As the aircraft approached Kirtland AFB, at an altitude of approximately 1,700 feet, the unarmed MK 17 hydrogen bomb dropped through the closed bomb bay doors. Although the weapon's parachute deployed, it failed to fully retard the weapon's fall because of the low altitude. The conventional high-explosive components detonated on impact, destroying the weapon, dispersing some nuclear material, and creating a crater 12 feet deep and 25 feet across. Plutonium was dispersed by the conventional explosive detonation of the device, and the area was contaminated by radiation. Though the site was reportedly cleaned-up by the military, some bomb fragments remain at the site and are still slightly radioactive. The event is characterized by the DoD as a "Broken Arrow" (CLUI 1996). The location where this 1957 Broken Arrow incident reportedly occurred is approximately two miles east/northeast of Mesa Del Sol Site 1, slightly more than one-half mile east/southeast of Mesa Del Sol Site 2, and approximately one and a quarter mile southeast of Mesa Del Sol Site 3. Because of the potential for radiation associated with this event, the GSA conducted a limited site investigation (GSA 2006) as part of due diligence and in an effort to gauge the likelihood of this event presenting a potential hazard to development of, and long-term operation at, one of

the nearby Mesa Del Sol sites under consideration. The investigations revealed no debris or measurable radiation associated with this event in the immediate area of any of the three Mesa Del Sol sites.

Section 4.0 Environmental Consequences

This section of the EA forms the basis for the comparison of the alternatives identified in Section 2.3. The discussion presented here includes the potential for impacts to the human environment as a result of implementing the proposed action through selection of a given alternative. As defined in 40 CFR §1508.14, the human environment is interpreted to include natural and physical resources, and the relationship of people with those resources. Accordingly, the analyses presented focuses on identifying potential impacts and estimating their potential consequences.

4.1 Land Use/Zoning

4.1.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.1.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of the three Mesa Del Sol alternatives would result in no significant impacts. Implementation would be compatible with existing and planned land use and adjacent land uses in the area. Implementation would be consistent with existing/planned zoning as implemented by the City of Albuquerque.

4.1.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Implementing this alternative would result in no significant impacts. Implementation would be compatible with existing and planned land use and adjacent land uses in the area. Implementation would be consistent with existing/planned zoning as implemented by the City of Albuquerque. Implementation of this alternative would also be consistent with land use guidelines for development within APZ II associated with the Kirtland AFB/Albuquerque International Sunport airfield.

4.1.4 Cumulative Impacts

Implementing any of the alternatives would result in no significant cumulative impacts. Implementation of any of the alternatives would be compatible with existing and planned land

use in the area and would be consistent with existing/planned zoning and planned growth as guided by the City of Albuquerque.

4.2 Traffic/Transportation

4.2.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.2.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of the three Mesa Del Sol alternatives would result in no significant traffic/transportation impacts. Development at any of the three Mesa Del Sol Sites could result in minor, temporary impacts in the immediate area from construction related traffic, potential lane closures, or potential traffic rerouting. However, due to the largely undeveloped nature of the area, the need for lane closures or potential traffic rerouting would be limited. Should they be necessary, typical notifications/permitting and signage would be implemented in accordance with State and local requirements. All construction related impacts would be temporary in nature and would return to normal once construction was completed.

Development and long-term use of any of the three Mesa Del Sol Sites would result in traffic being introduced in an area that currently has no immediate surrounding development and no immediate existing roads/access. As mentioned earlier, the developer of the Mesa Del Sol Planned Community would provide access to/from nearby Interstate 25 via Bobby Foster Road and the Rio Bravo/University Boulevard Extension that is currently under construction at the south end of the Albuquerque International Sunport diagonal runway. The Rio Bravo/University Boulevard Extension would provide initial access to the Mesa Del Sol Master Planned Community for the first phase of development and would continue to serve as the primary north/south arterial (with access to/from Interstate 25) in the future. The extension would provide the closest access to the Mesa Del Sol Employment Area and any of the three Mesa Del Sol sites. The extension is being constructed as a four-lane road; however, for the first few years it could be only one lane in a given direction depending traffic volume (Yasmer 2005).

Traffic projections conducted as part of planning for the Mesa Del Sol Master Planned Community, indicated that two “build” scenarios, one depicting both on-site and off-site projected traffic impacts for the year 2025 and the other depicting on-site capacity needs at build out resulted in an acceptable LOS along all roads in the immediate area with the exception

of the University Boulevard Extension. It is projected that by the year 2025, the University Boulevard Extension would be congested with the addition of Mesa Del Sol traffic (see Table 3-2).

It is important to note that the projections are for the year 2025 and a variety of things could affect this classification and improve traffic and the projected LOS by 2025. Several examples include the possible reclassification of University Boulevard from a Minor Arterial Road to a Principal Arterial Road, as well as some diversion of traffic from vehicles to future transit opportunities in the area.

Because development at any of the Mesa Del Sol sites would be one of the initial developments in the area and phased build out of the planned community would not happen for years, it is unlikely that the projected LOS on the University Boulevard Extension would have an impact on employees/visitors commuting to and from any of the sites or operations conducted out of any of the sites (i.e., convoys). Additionally, because additional analysis/review of transportation needs within the Mesa Del Sol Master Planned Community is programmed into future Level B and C documents as development progresses, it is likely that any traffic capacity or safety issues that may develop as growth in the area occurs would be identified and planning altered accordingly.

4.2.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Implementing this alternative would result in no significant traffic/transportation impacts. Development at the Eubanks Site could result in minor, temporary impacts in the immediate area from construction related traffic, potential lane closures, or potential traffic rerouting. Should lane closures or potential traffic rerouting be necessary, typical notifications/permitting and signage would be implemented in accordance with State and local requirements. All construction related impacts would be temporary in nature and would return to normal once construction was completed.

Development and long-term use of the Eubanks Site would contribute additional traffic to an area this is already congested and is further projected to be congested with long-term development in the area (see Table 3-3). It is important to note that the projected LOSs in the area of the Eubanks Site are for the year 2020 and take into consideration expected growth/development in the immediate area by the year 2020 and the associated traffic. As discussed in Section 3.2.2, one of the primary contributing factors to the existing traffic in the area and the projected below satisfactory LOSs in the future is the Kirtland AFB Eubanks Gate. Traffic operations at the Eubanks Gate are dependent upon existing capacity and the flow rate associated with the prevailing security screening level. Excessive queues associated with the Eubanks Gate also contribute to below satisfactory LOSs at several other intersections in the immediate area.

Because of the prevailing and projected traffic issues in the immediate area of the Eubanks Site, it is likely that persons driving to or from the site would experience delays and would contribute to delays experienced by other drivers in the immediate area. Excessive traffic in the area could contribute to possible safety issues and could also have an effect on the mission, specifically the dispatch of "convoys." In the future, traffic flow and projected congestion could be improved in the immediate area by multiple means. Several examples include further improvement/expansion of Eubanks Boulevard, staggering work days or hours of operation, and additional improvements at the Eubanks Gate and associated queuing.

4.2.4 Cumulative Impacts

Implementing any of the alternatives would result in no significant cumulative impacts. Implementation would, however, contribute traffic in areas that are either already congested or specific areas that are projected to have capacity issues in the future. The City of Albuquerque is a quickly developing/growing metropolitan area, and as such, the City has recognized the need to guide development and plan for those infrastructure needs that come with growth (e.g., traffic, transportation/transit, utilities, etc.). In doing this, the City of Albuquerque works in concert with the MRCOG which provides the regional perspective to urban and rural planning in central New Mexico, recognizing that transportation, natural resources, land use, and the economy are all interrelated and that short- and long-term planning and policy decisions are critical to the health of the City of Albuquerque. The MRCOG works closely with the City of Albuquerque (and other member governments) to identify and initiate regional planning strategies for consistent, stable growth and infrastructure development within a given city and the central New Mexico area as a whole.

From a transportation standpoint, specific planning efforts are developed and documented in the regional 20-year long range transportation plans (i.e., MTPs) and short-term TIPs discussed previously. These plans/programs are developed in concert with other plans (e.g., land use, etc.) and are implemented and updated on a regular basis to ensure that infrastructure needs keep up with local and regional development/growth. These short- and long-term planning efforts taken by the City of Albuquerque and the MRCOG are essentially "living documents" that are reviewed and amended as need be as the City develops/grows. Through these periodic reviews, updates, and amendments, the City has the opportunity to identify early any issues or conflicts on the horizon and alter or expand upon a given course of action, thereby avoiding undesirable cumulative effects. These plans/programs are also designed to develop partnerships with other entities or governments in central New Mexico. These partnerships and the resulting coordination would further reduce the potential for any cumulative impacts associated with growth and infrastructure needs.

4.3 Utilities

4.3.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.3.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of three Mesa Del Sol alternatives would result in no significant impacts. Utility access is provided in the area of the Mesa Del Sol Planned Development and development at any of the three sites would take advantage of prevailing access. Utility hook-ups or “tie ins” would be accomplished with typical notifications and typical construction methods/techniques, thereby ensuring minimal disruption for existing customers. Construction at any of the three Mesa Del Sol sites would result in no existing utility relocation/rerouting. Development at any of the sites would result in engineered stormwater discharge (due to impervious surfaces) and long-term operations would result in a need for utilities and utility-related services. Standard engineering (at the site and within the Mesa Del Sol Master Planned Community) in accordance with City of Albuquerque stormwater management guidelines would ensure no significant impacts as a result of the slight increase in stormwater discharge in the area. The slight increase in utilities and utility-related services is expected to be well within the capacity of prevailing utility providers/suppliers in the area and their distribution/collection infrastructure. As a result, there would be no expected impact as a result of the increase in utilities and utility-related services.

4.3.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Implementing this alternative would result in no significant impacts. Utility access is provided in the area of the Sandia Science and Technology Park and development at this site would take advantage of prevailing access. Utility hook-ups or “tie ins” would be accomplished with typical notifications and typical construction methods/techniques, thereby ensuring minimal disruption for existing customers. However, development at this site would likely include extensive relocation/rerouting of the overhead feeder transmission lines and support structures associated with the adjacent PNM Sandia Substation. Relocation/rerouting of these utilities would likely result in increased development costs as well as an increased potential for disruption for existing customers. Similar to the previous alternative, development at the Eubanks Site would result in engineered stormwater discharge (due to impervious surfaces) and long-term operations would result in a need for utilities and utility-related services. Standard

engineering in accordance with City of Albuquerque stormwater management guidelines would ensure no significant impacts as a result of the slight increase in stormwater discharge in the area. The slight increase in utilities and utility-related services is expected to be well within the capacity of prevailing utility providers/suppliers in the area and their distribution/collection infrastructure. As a result, there would be no expected impact as a result of the increase in utilities and utility-related services.

4.3.4 Cumulative Impacts

Implementing any of the alternatives would result in no significant cumulative impacts. As mentioned earlier, development at any of the sites would result in engineered stormwater discharge and long-term operations would result in a need for utilities and utility-related services. The slight increases would be typical of any industrial-type development in the area. Through planning, strict application and adherence to stormwater management guidelines, and sound engineering practices, the City of Albuquerque takes a proactive approach stormwater runoff. Utility providers in the area take the same approach to ensure long-term capacity and service for development throughout Albuquerque and the surrounding areas. Because of this, and the ability to alter plans as growth occurs, it is unlikely that any cumulative impacts would result due the slight increases associated with development at any of the sites.

4.4 Outdoor Air Quality

The air quality analysis provided herein includes a discussion of contributions to regional O₃ and CO levels, fugitive particle emissions, and open burning. Air quality impacts would be significant if the anticipated emissions:

- exceed *de minimis* rates for the CO or the O₃ standards;
- contribute to a violation of the regions fugitive particle regulations; or,
- contribute to a violation of regional CO control measures.

4.4.1 Alternative 1 – No Action

Implementing the no action alternative would result in no changes in ambient air quality conditions and thus no significant air quality impacts. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.4.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of three Mesa Del Sol alternatives would result in no significant impacts, however, implementation would likely result in short-term minor impacts to air quality. The minor increases in emissions would be similar to that of other development in the Albuquerque area and would not be expected to exceed applicability rates for a non-attainment area for the CO or O₃ standards, contribute to a violation of the regions fugitive particle regulations, or contribute to a violation of regional CO control measures.

As mentioned earlier, all the Mesa Del Sol Sites are located in an AQCR designated as “in attainment” for all the criteria pollutants and are not located within an ozone transport region. Therefore, the estimated emissions from proposed construction and stationary and mobile sources were compared to the least restrictive *de minimis* thresholds of 100 tpy for NO_x, VOCs and CO (see Table 3-5). The construction emissions included estimating equipment use for site preparation, construction, paving and landscaping for the facilities described earlier in Section 2.3 (see Table 2-1) as well as demolition of existing facilities. The operational emission estimates for the proposed facilities included:

- heating and cooling emissions from natural gas boilers; and,
- emissions from emergency generator use.

The detailed methodologies for estimating air emissions are included as Appendix B. As demonstrated in Table 4-1, the estimated emissions associated with implementing any of the Mesa Del Sol alternatives would be below the *de minimis* thresholds for NO_x, VOCs, and CO.

Table 4-1. Estimated Emissions Compared to *De Minimis* Thresholds.

Year	VOC (tpy)	NO _x (tpy)	CO (tpy)	VOC, NO _x and CO <i>De minimis</i> Threshold (tpy)	Exceeds <i>De Minimis</i> Threshold? (Yes/No)
2007 Construction Emissions	1.8	5.4	12.6	100.0	No
2008 Construction Emissions	2.2	11.7	16.6	100.0	No
Operational Emissions	0.1	1.7	1.5	100.0	No

4.4.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Implementing this alternative would result in similar impacts as construction and operation at any of the three Mesa Del Sol Sites just discussed. The minor increases in emissions would be similar to that of other development in the Albuquerque area and would not be expected to exceed applicability rates for a non-attainment area for the CO or O₃ standards, contribute to a

violation of the regions fugitive particle regulations, or contribute to a violation of regional CO control measures.

4.4.4 Cumulative Impacts

Implementing any of the alternatives (i.e., construction, operations, or traffic associated with relocation and increased operations) would result in no significant cumulative impacts to air quality. As mentioned earlier, all activities associated with the alternatives would be conducted in an area designated as attainment or attainment/maintenance for all criteria pollutants. Construction/demolition would be temporary in nature and the localized air quality conditions would return after completion. It is important to note that the State of New Mexico takes into account the likely effects of all past, present, and reasonably foreseeable emissions during the development of the State Implementation Plan (SIP) and TIP. The State accounts for all significant stationary, area, and mobile emission sources in the development of these plans. As a result, a development of this size and limited scope would not interfere with the states timely attainment of the NAAQS; and therefore, would not contribute to cumulative air quality impacts.

4.5 Noise

The noise analysis provided herein includes a discussion of construction and operational noise and its potential impacts on immediately nearby receivers. Impacts would be considered significant if there were expected long-term increases in the number of people highly annoyed by the noise environment; noise associated adverse health effects to individuals, or unacceptable increases to the noise environment for sensitive receptors. As discussed previously, a sensitive receptor is any person or group of persons in an environment where low noise levels would be expected, such as schools, hospitals, and nursing homes.

4.5.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts as a result of noise. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.5.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of three Mesa Del Sol alternatives would result in no significant impacts, however, implementation would likely result in minor, temporary impacts on the local noise environment. Implementing any of these alternatives would increase the levels of noise within the immediate project area through the use of construction equipment. The sound would

attenuate rapidly with distance from the site. Due to the temporary nature of the construction noise, no long-term increases in the number of people highly annoyed would be anticipated. Due to the limited nature (both frequency and loudness) of the construction noise, noise levels associated adverse health effects to individuals would not be anticipated. Additionally, there are no sensitive receptors within immediate audible distance of any of the sites.

As mentioned earlier, construction activities would generally take place six days a week (Monday through Saturday) between the hours of 7:00 am and 5:00 pm. The primary sources of the additional construction noise would be the use of soil moving units, heavy trucks, and additional light construction equipment (Waier, 2005). Table 4-2 provides a breakdown of each piece of equipment and its likely contribution to the overall construction noise during the site preparation phase. This is expected to be the loudest period during the construction. The values are based on estimated periods of use during a typical workday and assume equipment would generally operate at or near its maximum sound levels anywhere from 20 to 50 percent of the time (Thalheimer, 2000).

Table 4-2. Expected Equipment and Contribution to Overall Construction Noise During the Expected Loudest Period of Construction.

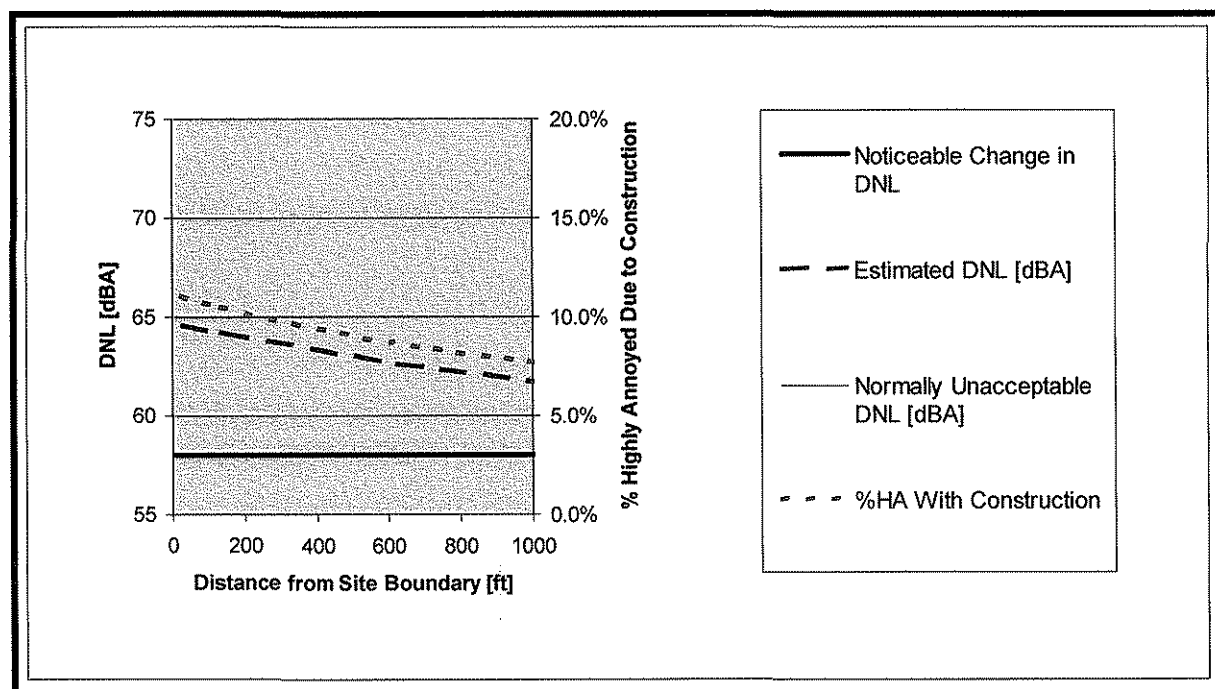
Equipment	Number of Units	Lmax at 50 Feet [dBA]	Unit Usage Factor	Estimated Leq at 50 Feet [dBA]
Dozer	4	85	0.5	86.8
Excavator	4	85	0.57	87.3
Generator Sets <50 hp	2	82	0.74	82.5
Other Material Handling Equipment	4	85	0.5	85.0
Off Highway Trucks	10	84	0.65	90.9
Grader	1	85	0.61	81.6
Plate Compactor	3	80	0.41	77.9
Pressure Washers	1	85	0.3	73.8
Roller	1	85	0.56	81.2
Chain Saw	2	80	0.5	77.0
Stump Grinder	1	85	0.37	79.4
Scraper	1	85	0.72	82.3
Pick-up Trucks (heavy duty)	10	55	0.4	56.8
Dump Trucks (heavy duty)	5	84	0.6	87.5
			Total	96.0

Lmax – maximum sound pressure level
Leq – equivalent sound pressure level

Due to the size of the site and the limited scope of construction, the overall noise environment beyond the site boundary would be expected to be below 65 dBA DNL (Figure 4-1). Periodically the construction equipment would likely be audible beyond the construction site boundary, but

the overall noise environment would not be incompatible with the surrounding land uses. Brief acoustical events could occur and have minor effects on speech intelligibility by way of brief and unnoticeable interruptions in communication. Due to the time activities would take place, no sleep awakenings would be expected. In general, the average reaction of receptors beyond the site boundary to the noise environment would likely be minimal. As mentioned earlier, no sensitive receptors are located within immediate audible distance of the site; therefore, no sensitive receptors would notice changes in the overall noise environment during construction activities. Construction noise would be expected to dominate the immediate soundscape for all on-site personnel. However, as discussed previously, activities would be conducted in accordance with Department of Labor, OSHA regulations.

Figure 4-1. Distance from Site Boundary vs. Day Night Sound Level and Percent Highly Annoyed Due to Additional Construction Noise.



4.5.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Similar to the previous alternative, implementing this alternative would result in no significant impacts. Implementation would, however, result in minor, temporary impacts on the local noise environment.

4.5.4 Cumulative Impacts

Implementing any of the alternatives would have no ongoing or cumulative impacts on the prevailing noise environment in the immediate area. As mentioned earlier, the past, current, and reasonably foreseeable noise environment in the area of the three Mesa Del Sol sites is predominantly influenced by sounds common to a sparsely developed/developing area in any city, however, because of the undeveloped nature of the immediately surrounding area, there are fewer contributing factors and greater distances involved. Existing noise conditions at the Eubanks Site are predominantly influenced by sounds common to an already developed/developing area in any city. This includes operations at nearby Kirtland AFB, the Albuquerque International Sunport, and other development/improvements in the area. Prevailing traffic in the immediate area is also a contributing factor. Since construction activities associated with any of the alternatives would be temporary in nature, returning to normal conditions once activities are completed, no long-term cumulative impacts would be anticipated. As mentioned previously, long-term operations at any of the sites would include the introduction of additional traffic, however, from a noise standpoint, the addition of vehicles and the occasional "convoy" would not be expected to be noticeable and therefore would not contribute to any ongoing cumulative noise impacts in the area.

4.6 Water Resources (surface water, groundwater, and floodplains)

4.6.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts to water resources. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.6.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of three Mesa Del Sol alternatives would result in no significant impacts to water resources. As discussed earlier, there are no surface water features present at any of the Mesa Del Sol Sites, however, the Tijeras Arroyo can be found to the north of the Mesa Del Sol Sites and south of the Eubanks Site. Development and implementation of a site-specific SWPPP, as discussed earlier, would provide measures (i.e., implementation of BMPs) to eliminate or reduce any potential impacts to the Tijeras Arroyo and surface water quality in the immediate area. Due to the depth of groundwater, implementation of any of the Mesa Del Sol alternatives would not be expected to impact groundwater or contribute to a decline in groundwater quality. All sites are in areas determined by FEMA to be outside the 0.2 percent annual chance floodplain.

4.6.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Similar to the previous alternative, implementing this alternative would result in no significant impacts water resources. There are no surface water features present at the Eubanks site, however, the Tijeras Arroyo can be found just south of the site. Development and implementation of a site-specific SWPPP, as discussed earlier, would provide measures (i.e., implementation of BMPs) to eliminate or reduce any potential impacts to the Tijeras Arroyo and surface water quality in the immediate area. Due to the depth of groundwater, implementation of this alternative would not be expected to impact groundwater or contribute to a decline in groundwater quality. As with the Mesa Del Sol Sites, the Eubanks Site is in an area determined by FEMA to be outside the 0.2 percent annual chance floodplain.

4.6.4 Cumulative Impacts

Implementing any of the alternatives would have no long-term cumulative impacts to water resources in the area. As discussed earlier, implementation would result in no impacts to adjacent surface water features and no impacts to groundwater or groundwater quality. All of the sites are outside the 0.2 percent annual chance floodplain.

4.7 Biological Resources

4.7.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts to prevailing biological resources. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.7.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of these three alternatives would result in no significant impacts to biological resources. Implementation of any of these alternatives would result in the clearing of approximately 50 acres. As a result of the loss of vegetative cover, local wildlife would be displaced. However, impacts would be minimal as similar, suitable habitat can be found in adjacent/nearby areas. As mentioned previously, the potential for the fifteen federal and/or state species listed as threatened or endangered in Bernalillo County to utilize any of the sites is minimal based on the lack of suitable habitat. As a result, there would be no anticipated impacts to protected species or unique habitats.

4.7.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Similar to the previous alternatives, implementing this alternative would result in no significant impacts to biological resources. Implementation of this alternative would result in the clearing of approximately 35 acres. As a result of the loss of vegetative cover, local wildlife would be displaced. However, impacts would be minimal as similar, suitable habitat can be found in adjacent/nearby areas. As mentioned previously, the potential for the fifteen federal and/or state species listed as threatened or endangered in Bernalillo County to utilize the site is minimal based on the lack of suitable habitat. As a result, there would be no anticipated impacts to protected species or unique habitats.

4.7.4 Cumulative Impacts

Implementing any of the alternatives would have no long-term cumulative impacts to biological resources in the area. As the result of clearing 35 to 50 acres, local wildlife would be displaced. However, similar/suitable habitat can be found in the adjacent/nearby areas. Due to a lack of suitable habitat, implementing any of the alternatives would result in no anticipated long-term cumulative impacts to unique habitats or federal and/or state species listed as threatened or endangered in Bernalillo County.

4.8 Solid/Hazardous Waste and Landfills

4.8.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts from existing solid/hazardous waste associated with nearby landfills or the use, storage, transportation, or disposal of hazardous materials associated with development or long-term operations. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.8.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of these three alternatives would result in no significant impacts from existing solid/hazardous waste associated with nearby landfills or the use, storage, transportation, or disposal of hazardous materials associated with development or long-term operations. As mentioned previously, the former South Broadway/Mesa Del Sol Landfill (City of Albuquerque, Bernalillo County Municipal Landfill) and associated Landfill Buffer Zone (1,000 feet) is located more than a mile west/southwest of the three Mesa Del Sol Sites. The South Broadway portion of the landfill was closed in 1978 and the Mesa Del Sol portion was closed in

1989. As part of the closure, quarterly and/or annual groundwater and landfill gas monitoring has been conducted. Results have indicated no groundwater contamination associated with the former landfill and no methane monitoring results have exceeded the 25 percent LEL. Based on these results, and the distance of the former landfill from the three Mesa Del Sol Sites, no impacts would be anticipated.

Under this alternative, a minimal amount of hazardous materials would likely be used, stored, transported, and disposed of as part of developing the site. Future expanded operations are also likely to result in a moderate increase (estimated at 20 percent) in hazardous materials/substances (i.e., petroleum, oils, lubricants, etc.) use, storage, and disposal (Crawford 2006). All use, storage, and disposal of hazardous materials/substances used as part of development and long-term operations at the site would be conducted in accordance with all appropriate federal, state, and local laws/regulations. As a result, no impacts would be anticipated.

4.8.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Implementing this alternative would result in no significant impacts from existing solid/hazardous waste associated with nearby landfills or the use, storage, transportation, or disposal of hazardous materials associated with development or long-term operations. As mentioned previously, the South Eubanks Landfill (City of Albuquerque Municipal Landfill) occupies much of the southern/southeastern portion of the Eubanks Site. The Landfill Buffer Zone (1,000 feet) encompasses the rest of the Eubanks Site. The South Eubanks Landfill was closed in 1984. As part of the closure, quarterly and/or annual groundwater and landfill gas monitoring has been conducted. Results have indicated no groundwater contamination associated with the former landfill and the latest available quarterly landfill gas monitoring quarterly letter report for the former Eubanks Landfill (City of Albuquerque 2005) indicated that most of the landfill gas monitoring wells at the former Eubanks Landfill do not contain levels of landfill gas and those that do have landfill gas present, contain minimal levels (less than 10 percent). Greater than 10 percent LEL was only observed in three monitoring wells located more than 2,000 feet northeast of the Eubanks Site. The report noted that landfill gas concentrations measured during the ninth quarter sampling were lower than those readings measured during the eighth quarter sampling event completed in June 2005 (City of Albuquerque 2005).

Because a portion of this site is located on the former South Eubanks Landfill and the remaining portion of the site is within a City designated landfill buffer zone, construction and development at the site would be conducted in accordance with guidelines developed by the City of Albuquerque for development within an active or inactive City designated landfill buffer zone. As a result of these guidelines and the latest quarterly monitoring results, no impacts would be anticipated.

Similar to the previous alternative, under this alternative, a minimal amount of hazardous materials would likely be used, stored, transported, and disposed of as part of developing the site. Future expanded operations are also likely to result in a moderate increase (estimated at 20 percent) in hazardous materials/substances (i.e., petroleum, oils, lubricants, etc.) use, storage, and disposal (Crawford 2006). All use, storage, and disposal of hazardous materials/substances used as part of development and long-term operations at the site would be conducted in accordance with all appropriate federal, state, and local laws/regulations. As a result, no impacts would be anticipated.

4.8.4 Cumulative Impacts

Implementing any of the alternatives would result in no significant long-term cumulative impacts as a result of existing solid/hazardous waste associated with nearby landfills or the use, storage, transportation, or disposal of hazardous materials associated with development or long-term operations. Development and long-term use of any of the sites would be conducted in accordance with all appropriate federal, state, and local laws/regulations that have been put in place to insure the health and safety of workers and long-term occupants of facilities built within landfill buffer zones.

4.9 Cultural Resources and Historic Properties

4.9.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts to cultural resources or historic properties. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.9.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of the three Mesa Del Sol alternatives would result in no significant impacts to cultural resources or historic properties. As mentioned previously, records review and site survey of Mesa Del Sol 1 and Mesa Del Sol 3 resulted in no significant cultural resources. Records review and site survey conducted for Mesa Del Sol 2 resulted in the identification of one previously recorded site (LA 142183) of Euro-American, Middle 20th Century, Probable U.S. Military cultural-temporal affinity. This site was re-located and updated as part of this effort. Site LA 142183 consists of a scatter of historic artifacts concentrated in an area approximately 165 feet by 195 feet. A total of 41 historic artifacts were found at the location in an earlier survey (Eck 2004) and many were relocated as part of this effort. There are no features and the

artifact scatter is surfacial with no cultural sediments present. The artifacts suggest short-term use, perhaps related to some type of military activity. The artifacts at this site suggest a ca. 1960s date. The site remains in stable and undisturbed condition.

This site was recommended as having significance to justify NRHP nomination under Criteria "d", and was considered as potentially eligible by the New Mexico State Historic Preservation Division on March 4, 2004 (Log No. 70089). However, the site does not appear to be more than 50 years of age, nor does it have the potential research value to justify nomination to the State or NRHP. The site is a simple activity area, with no structural features or cultural sediments. The artifact materials present at the site date to the 1960s and have been described in detail (Eck 2004). It is likely that further work at this site would yield no additional information and the information potential of this site is considered to be exhausted. It has been recommended to the SHPO that the significance and eligibility of this site be re-considered and identified as non-eligible. The information potential of this site has been exhausted and no further research or treatment is recommended.

As mentioned earlier, consultation with both the New Mexico SLO and the New Mexico SHPO was initiated via letter and the report detailing the February 2006 Class III archeological survey at all three Mesa Del Sol sites was submitted for review. Both the New Mexico SLO and the SHPO have concurred that there is an absence of cultural properties at Mesa Del Sol Site 3 and as a result, there would be no effect. It is expected that both the New Mexico SLO and the SHPO have the same finding regarding Mesa Del Sol Site 1, however, concurrence has not been issued to date. Due to the presence of LA 142183 at Mesa Del Sol Site 2, further investigations/coordination would be warranted prior to ground disturbing activities should this site be chosen for development (Appendix C).

There are no known traditional cultural properties within or adjacent to any of the Mesa Del Sol Sites. Consultation with the tribal groups recommended by the New Mexico State Historic Preservation Division for the Bernalillo County area has been initiated by the GSA. Consultation letters were sent to Isleta Pueblo, the Hopi Tribe, Laguna Pueblo, the Navajo Nation, Sandia Pueblo, and the White Mountain Apache Tribe. Letters received from tribal groups indicate agreement that no traditional, religious, or culturally significant sites would be affected at any of the Mesa Del Sol sites (see Appendix C).

4.9.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

It is unlikely that implementing this alternative would result in significant impact to cultural resources or historic properties. However, this is not conclusive as investigations of this site consisted only of database/records review and review of a previous investigation done in the area of the Eubanks Site. No archeological survey was performed at the site because right-of-entry could not be obtained. As mentioned earlier, a cultural resources Class II sample survey

was conducted in October 2000 as part of planning activities associated with the nearby Sandia Science and Technology Park (Marshall 2000). This survey included the Eubanks site. The investigation included a cultural resources records search and a random reconnaissance survey of approximately 20 percent of the overall Sandia Science and Technology Park area. Investigations revealed, that in the area of the Eubanks Site, most of the area has been subject to previous disturbance related to the former South Eubanks Landfill. The study concluded that due to previous disturbance it is unlikely that any cultural resources are present in the area. Should this alternative be chosen for implementation, a site-specific survey would be conducted to insure no impact to cultural resources or historic properties.

Similar to the previous alternative, there are no known traditional cultural properties within or adjacent to the Eubanks Site. However, no consultation with the tribal groups regarding this site has been initiated. Should this site be chosen for development, consultation with tribal groups recommended by the New Mexico State Historic Preservation Division for the Bernalillo County would be conducted (i.e., Isleta Pueblo, the Hopi Tribe, Laguna Pueblo, the Navajo Nation, Sandia Pueblo, and the White Mountain Apache Tribe).

4.9.4 Cumulative Impacts

Implementing any of the alternatives would result in no significant long-term cumulative impacts to cultural resources or historic properties. As just mentioned, with the exception of one previously recorded site (LA 142183) at Mesa Del Sol 2, there are no significant cultural resources at any of the Mesa Del Sol Sites. Site LA 142183 was originally recommended as having significance to justify NRHP nomination under Criteria "d", and was considered as potentially eligible by the New Mexico State Historic Preservation Division on March 4, 2004 (Log No. 70089). However, the site does not appear to be more than 50 years of age, nor does it have the potential research value to justify nomination to the State or NRHP. The site is a simple activity area, with no structural features or cultural sediments. The artifact materials present at the site date to the 1960s and have been described in detail (Eck 2004). It is likely that further work at this site would yield no additional information and the information potential of this site is considered to be exhausted. It has been recommended to the SHPO that the significance and eligibility of this site be re-considered and identified as non-eligible. The information potential of this site has been exhausted and no further research or treatment is recommended. Should Mesa Del Sol Site 2 be chosen for development, further investigations/coordination would be conducted to insure no impact to LA 142183.

Due to previous disturbance associated with the South Eubanks Landfill, it is anticipated that with further investigation/survey of the Eubanks site, no significant cultural resources would be identified.

Additionally, there are no known traditional cultural properties within or adjacent to any of the Mesa Del Sol sites. As a result, no significant impacts to traditional cultural properties would be anticipated. Should the Eubanks Site be chosen for development, consultation with tribal groups would be conducted to insure no long-term cumulative impacts.

4.10 Historic Ranges, Unexploded Ordnance, and Other Weapons-Related Incidents/Occurrences

4.10.1 Alternative 1 – No Action

Implementing the no action alternative would result in no significant impacts as a result of historic ranges, potential UXO associated with these ranges, or other past weapons-related incidents/occurrences. Under the no action alternative, the seven functions listed in Section 1.2 would continue to operate in existing government owned and leased facilities in Albuquerque. No action would be taken to meet the current and future facility needs of the OST.

4.10.2 Alternatives 2 through 4 – Construct and Lease New Facilities at One of the Mesa Del Sol Sites

Implementing any of three Mesa Del Sol alternatives would result in no significant impacts as a result of historic ranges, potential UXO associated with these ranges, or other past weapons-related incidents/occurrences. As discussed earlier, several historical ranges exist on Kirtland AFB and UXO has been observed in multiple areas throughout these ranges. The boundary of one of these historical ranges or the range “fan” extends off the current boundaries of the base to the west. All three of the Mesa Del Sol Sites are in close proximity to the boundaries of this historic range, with one site being completely within the boundaries (Mesa Del Sol 2), one site being bisected by the boundary (Mesa Del Sol 3), and the last site being just adjacent to the historical boundary (Mesa Del Sol 1). Although a limited site investigation (GSA 2006) conducted at one of the Mesa Del Sol sites indicated a low risk/potential for UXO at the site, a requirement would be made on any future development of the Mesa Del Sol Planned Community that a site investigation, assessment, and remediation (if applicable) of UXO be completed by the developer prior to the commencement of any construction activities. As a result, there would be no anticipated impacts resulting from historic ranges or potential UXO.

As mentioned earlier, a Broken Arrow incident reportedly occurred in the vicinity of the Mesa Del Sol Sites in the late 1950s. The location where this incident reportedly occurred is approximately two miles east/northeast of Mesa Del Sol Site 1, slightly more than one-half mile east/southeast of Mesa Del Sol Site 2, and approximately one and a quarter mile southeast of Mesa Del Sol Site 3. According to sources, the weapon broke up and exploded on impact (i.e., detonation of the conventional explosives contained in the weapon). The area was contaminated by radioactive materials (i.e., fragments from the plutonium core) released into the atmosphere

and impact crater. Although the incident site was reportedly cleaned-up by the USAF, some bomb fragments remain at the incident site that are still slightly radioactive. There is a possibility that some of these materials may have migrated to the site under current consideration. Because of this possibility, the GSA conducted a limited site investigation (GSA 2006) as part of due diligence and in an effort to gauge the likelihood of this event presenting a potential hazard to development of, and long-term operation at, one of the nearby Mesa Del Sol sites under consideration. The investigations revealed no debris or measurable radiation associated with this event in the immediate area of any of the three Mesa Del Sol sites. As a result, there would be no anticipated impacts resulting from this incident.

4.10.3 Alternative 5 – Construct and Lease New Facilities at the Eubanks Site

Similar to the previous alternative, implementing this alternative would result in no significant impacts as a result of historic bombing ranges, potential UXO associated with these ranges, or other past weapons-related incidents/occurrences. There are no known historic ranges in the area of the Eubanks Site; however, there is a distinct possibility that other historic ranges could be identified in the area in the future. As a result, and to insure the safety of contractors and other personnel, an investigation, assessment, and other necessary steps would be employed (by the land owner) to identify and remove any potential UXO from the site prior to commencing construction activities. As a result, there would be no anticipated impacts resulting from historic ranges or potential UXO. The reported location of the Broken Arrow incident is several miles south/southwest of the Eubanks Site. Because of distance and the fact that no measurable radiation or debris associated with this historical incident was found in the area of the Mesa Del Sol sites, there would be no anticipated impacts resulting from this incident.

4.10.4 Cumulative Impacts

Implementing any of the alternatives would result in no cumulative impacts as a result of historic ranges, potential UXO associated with these ranges, or other past weapons-related incidents/occurrences. In an effort to address the issue of historic ranges in the area, and the potential for UXO, Both Kirtland AFB and the Albuquerque USACE are currently in the early stages of conducting a PA (i.e., historic records search, interviews, etc.) to determine the probability of UXO on, and immediately adjacent to, the base. Should the results of the PA indicate the potential for UXO, additional steps would be taken including eventual remedial activities should they be necessary (Crutchfield, Henry 2006). These activities are being conducted as part of Formerly Used Defense Sites (FUDS) Program. The DoD is responsible for environmental restoration of properties that were formerly owned by, leased to, or otherwise possessed by the U.S. and under the jurisdiction of the Secretary of Defense. Such properties are known as FUDS. The U.S. Army is the executive agent for the program and the USACE is the organization that manages and directs the program's administration.

Conducting the PA in the area (and other investigations/activities should they be warranted) should help insure that long-term operations at Kirtland AFB and commercial development of nearby lands are not impacted by past military use of the lands. The developer of the Mesa Del Sol Master Planned Community is also in the process of formulating a plan, based on the findings of the PA to further insure no UXO-related restraints to development and long-term use of the area. As a result of these investigations and planning, it is unlikely that there would be any long-term cumulative issues relating to historic ranges or UXO in the area. A similar investigation/assessment of the site where the Broken Arrow incident reportedly occurred would ensure no long-term cumulative issues with regards to commercial development in the area.

Section 5.0 List of Preparers

The following individuals were responsible for the preparation of this supplement:

Name Company/Affiliation	Expertise/Experience	Role in Preparation
Steve Kline, AIA Historic Preservation and Fine Arts Officer GSA Region 7	Historic Preservation	COTR, Oversight and Document Review, Coordination
Lisa Schaub Environmental Advisor GSA Region 7	Environmental Program/Project Management and Implementation	Oversight and Document Review
William Neil Landers Contracting Officer Portfolio Management GSA Region 7	Real Estate Contracting/Portfolio Management	Document Review
Lisa Wideman Supervisor, Real Estate Services New Mexico Service Center GSA Region 7	Real Estate	Oversight and Document Review
Mark Duffy Senior Assistant Regional Counsel Office of Regional Counsel GSA Region 7	Legal Review	Document Review
Bruce Meek, P.E. Contract/Program Manager ECS, Limited	Civil Engineering, Site Investigations, Asbestos, Materials Testing	Contract Management, Document Review
Ron Moore NEPA Project Manager Vance & Man	Environmental Program/Project Management	Chapter 1 and Chapter 2 Chapter 3 and Chapter 4 Land Use/Zoning, Traffic/Transportation, Utilities, Water Resources, Solid/Hazardous Waste and Landfills, and Historical Ranges, Unexploded Ordnance, and Other Weapons-Related Issues/Incidents
Tim Lavalley, P.E. Environmental Engineer LPES, Inc.	Air Quality and Noise Impact Analysis	Chapter 3 and Chapter 4 Air Quality & Noise
Megan Claycamp Sr. Biologist KBA EnviroScience	Biological Resources, Wetlands	Chapter 3 and 4 Biological Resources
Mike Marshall Director of Archeological Projects Cibola Research Consultants	Cultural Resources, Archeological Properties	Chapter 3 and 4 Cultural Resources and Historic Properties

Section 6.0 Agencies and Individuals Contacted and Document Distribution

The following agencies and/or individuals were contacted/consulted during the preparation of this EA:

- General Services Administration, Region 7
819 Taylor Street
Fort Worth, Texas 76102
Mrs. Lisa Schaub
Mr. Steve Kline, AIA
- Forest City Covington, New Mexico
801 University Boulevard, Suite 100
Albuquerque, New Mexico 87106
Mr. KC Yasmer
Mr. Mike Castillo
Mr. Harry Relkin
- NNSA OST Albuquerque
NNSA Service Center
P.O. Box 5400
Albuquerque, New Mexico 87185
Mr. Clete Helvey
Mr. Mark Romwalter
Mr. Jeff Robbins
- City of Albuquerque
Environmental Health Department
Environmental Services Division, Room 3023
P.O. Box 1293
Albuquerque, New Mexico 87103
Ms. Marcia Pincus, P.E.
Mr. Ralph Grubel, REM, PG
Mr. Mark Dear, Compliance
- Albuquerque USACE
4101 Jefferson Plaza
Albuquerque, New Mexico 87109
Ms. Monique Ostermann
Mr. David Henry
Mr. David Holladay (OE Safety Spec.)
- Terradigm Inc.
401 Alvarado Southeast, Suite G
Albuquerque, New Mexico 87108
Mr. Fernie Lucero
- New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501
Mr. David Eck
- Hopi Tribal Council
Wayne Taylor, Jr. Chairman
One Main St.
Kykotsmovi, AZ 86039
Leigh Kuwanwisiwma, Director Cultural Preservation
- Kirtland Air Force Base
2000 Wyoming Boulevard
Kirtland AFB, New Mexico 87117
Mr. David Crutchfield (3tt ABW/SEW)
MSGT. Kent Gray (Chief EOD Branch)
Ms. Evelyn Watkins (NEPA Prog. Mgr.)
Mr. Carl Lanz (Chief, Restoration)
Captain Murren (BioEnv Group)
Mr. Greg Miller (Air Force Safety Center)
- Historic Preservation Division
Office of Cultural Affairs
407 Galisteo Street, Suite 238
Santa Fe, New Mexico 87401
Ms. Michelle Ensey
Ms. Dorothy Victor

The following agencies and/or individuals received a copy of this EA:

- NNSA OST Albuquerque
NNSA Service Center
P.O. Box 5400
Albuquerque, New Mexico 87185

- Albuquerque Main Library
501 Copper Northwest
Albuquerque, New Mexico 87102

As part of the NEPA process, the Draft EA was made available for public review and comment. The comment period was open for 30 days beginning June 1, 2006. Notification to the public (in the form of a Notice of Availability) was made in the Albuquerque Journal. A hard copy of the Draft EA was made available for review at the Albuquerque Main Library. Additionally, the document was made available for review on the GSA webpage. No comments were received on the Draft EA. The Notice of Availability as well as the affidavit of publication can be found in Appendix D.

Section 7.0 References

- Albuquerque/ Bernalillo County Air Quality Control Board (AQCB) 2004. Limited Maintenance Plan for Carbon Monoxide (CO): Albuquerque/Bernalillo County, New Mexico. 2004.
- Albuquerque/ Bernalillo County Air Quality Control Board (AQCB) 2002. Air Quality Impact Assessment Modeling Criteria. Update October 2002.
- Albuquerque/ Bernalillo County Air Quality Control Board (AQCB) 2006. Preliminary Air Quality Impact Assessment (AQIA) Content and Procedure & Methodology Checklist. 2006.
- Albuquerque/ Bernalillo County Air Quality Control Board (AQCB) 2004. Update of Local MOBILE 6.2 Assumptions Based on Amendments to 20-11-100 NMAC 12-9-04 CLL. 2004.
- Castillo 2006. Personal communication between Mr. Mike Castillo, Forest City Covington, New Mexico and Mr. Ron Moore, Vance and Man Consulting Group. February 9, 2006.
- City of Albuquerque 1986. Facility Plan for Arroyos, Multiple Use of Albuquerque's Arroyos and Their Floodplains. City of Albuquerque Planning Department, Planning Division. As adopted by the Albuquerque City Council and the Board of Bernalillo County Commissioners. February 3, 1986.
- City of Albuquerque 2003. Landfill Gas Monitoring Well Installation Letter Report, Former City of Albuquerque Owned and/or Operated Eubank Landfill, Albuquerque, New Mexico. Intera. October 10, 2003.
- City of Albuquerque 2005. Landfill Gas Monitoring Quarterly Letter Report – Ninth Quarter, Eubank Landfill, Albuquerque, New Mexico. Intera. December 7, 2005.
- City of Albuquerque 2006. Personal communication between Mr. Mark Dear, Compliance Representative, City of Albuquerque, Solid Waste Management Department and Mr. Ron Moore, Vance and Man Consulting Group. March 7, 2006.
- City of Albuquerque 2006a. Personal communication between Mr. Ralph Grubel, REM, PG, City of Albuquerque, Environmental Health Department and Mr. Ron Moore, Vance & Man Consulting Group, March 10, 2006.
- City of Albuquerque/DOE 2002. Eubank Boulevard Environmental Assessment, Kirtland Air Force Base Eubank Gate to Southern Boulevard. Transcore. April 2002.

- CLUI 1996. The Center for Land Use Interpretation, The Lay of the Land Newsletter, Spring 1996. www.clui.org.
- Crawford 2006. Personal communication between Mr. Mark Crawford, Sandia National Laboratories and Mr. Ron Moore, Vance and Man Consulting Group. February 17, 2006.
- Crutchfield, Henry 2006. Personal communication between Mr. Dave Crutchfield, Kirtland Air Force Base, 377 ABW/SEW, Mr. David Henry, Albuquerque, U.S. Army Corps of Engineers, and Mr. Ron Moore, NEPA Project Manager, Vance and Man Consulting Group. February 9, 2006 and March 3, 2006.
- Eck 2004. La Semilla, An Archeological Survey of 3,000 Acres on Mesa Del Sol. New Mexico State Land Office. NMCRIS Activity Number 77109. David E. Eck. 2004.
- Federal Emergency Management Agency (FEMA) 2003. FEMA, National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Bernalillo County, New Mexico (and Incorporated Areas), Panel 363 and 366, Map Number 35001C0363E and 35001C0366E, November 2003.
- Forest City Covington 2003. Phase I Environmental Site Assessment, Mesa Del Sol 9,000 Acre State Land Study Area, Albuquerque, New Mexico. URS Corporation. August 29, 2003.
- Forest City Covington 2005. Mesa Del Sol Community Master Plan, Level A Plan. Calthorpe Associates in collaboration with Bekker/Perich/Sabatini, Bohannon Houston, Inc., URS Corporation, Hirst Cordova Public Relations, and Rick Johnson and Company, Inc. June 2005.
- Forest City Covington 2005a. Phase I Environmental Site Assessment, Mesa Del Sol 3,480 Acre State Land Study Area, Albuquerque, New Mexico. URS Corporation. July 13, 2005.
- General Services Administration 2006. Limited Site Investigation at Mesa Del Sol Site 3, Albuquerque, New Mexico. Engineering Consulting Services Ltd. April 2006.
- Harris, C. 1998. Handbook of Acoustical Measurement and Noise Control. 3rd Edition. Acoustical Society Of America, Woodbury, New York. 1998.
- Macias, Fabian 2006. Environmental Health Program Manager, City of Albuquerque Air Quality Division, Personal communication by email. January 26, 2006.

- Marshall 2000. A Class II Cultural Resource Investigation for the Proposed Sandia Science and Technology Park, Bernalillo County, New Mexico. Cibola Research Consultants Report Number 272, Corrales. October 2000.
- New Mexico Administrative Code (20.11.03 NMAC) Albuquerque/ Bernalillo County Air Quality Control Transportation Conformity.
- New Mexico Administrative Code (20.11.20 NMAC). Reasonably Available Control Measures for Fugitive Dust.
- New Mexico Administrative Code (20.11.21 NMAC). Open Burning Emissions Reductions Techniques (ERT).
- Sandia National Laboratories/New Mexico 2005. Sandia National Laboratories/New Mexico, Emergency Planning Zone Analysis. AlphaTRAC, Inc. March 2005.
- Thalheimer, Erich 2000. Construction Noise Control Program and Mitigation Strategy at the Central Artery/ Tunnel Project. Noise Control Eng. J. 48 (5). September – October 2000.
- U.S. Department of Energy, Energy Information Administration 1999. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, Commercial Buildings Energy Consumption Survey. 1999.
- U.S. Environmental Protection Agency (USEPA) 1974. Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. 550/9-74-004. Washington, D.C. 24 p. 1974.
- U.S. Environmental Protection Agency (USEPA) 1995. Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources. 1995.
- U.S. Environmental Protection Agency (USEPA) 2002. User's Guide to MOBILE6.0 (Mobile Source Emission Factor Model), US Environmental Protection Agency (EPA), Office of Air and Radiation, EPA420-R-02-001. 2002.
- U.S. Environmental Protection Agency (USEPA) 2004a. Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling --Compression-Ignition, NR-009c. EPA420-P-04-009. 2004.
- U.S. Environmental Protection Agency (USEPA) 2004b. Exhaust Emission Factors for Nonroad Engine Modeling -- Spark-Ignition, NR-010d. EPA420-P-04-010. 2004.

- U.S. Environmental Protection Agency (USEPA) 2004c. Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling, NR-005c. EPA420-P-04-005. 2004.
- U.S. Environmental Protection Agency (USEPA) 2004d. Nonroad Engine Population Estimates, NR-006b. EPA420-P-02-004. 2004.
- U.S. Geological Survey [USGS] 1995. Groundwater Atlas of the United States, Arizona, Colorado, New Mexico, and Utah. HA 730-C. S. G. Robson and E. R. Banta. 1995.
- Waier, Phillip R. 2005. Building Cost Construction Data 2006, 64th Annual Edition, R.S. Means Construction Publishers and Consultants, Kingston, MA. 2005.
- Yasmer 2005. Personal communication between Mr. KC Yasmer, Development Associate, Forest City Covington New Mexico and Mr. Ron Moore, NEPA Project Manager, Vance and Man Consulting Group. January 30, 2006.

Section 8.0 Acronyms and Abbreviations

µg/m ³	micrograms per cubic meter
ACHP	Advisory Council on Historic Preservation
ADT	average daily traffic
AHPA	Archeological and Historic Preservation Act
APZs	Accident Potential Zones
AQB	Air Quality Bureau
AQCRs	Air Quality Control Regions
ARPA	Archeological Resources Protection Act
ASTM	American Society of Testing and Materials
BMP	best management practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel level
DNL	Day-Night Average Sound Level
DOD	Department of Defense
DOE	Department of Energy
EA	environmental assessment
EO	Executive Order
EOD	explosive ordnance disposal
EPCRA	Emergency Planning and Community Right-to-Know Act
EPZ	emergency planning zone
ESA	Environmental Site Assessment
FAF WC	Federal Agent Facility, Western Command
FEMA	Federal Emergency Management Agency
FWPCA	Federal Water Pollution Control Act
GSA	General Services Administration
HA	highly annoyed
HCM	Highway Capacity Manual
HUD	U.S. Department of Housing and Urban Development
KO	Kirtland Operations
Leq	equivalent sound pressure level
Lmax	maximum sound pressure level
LOS	level of service
MEMF	Mobile Electronic Maintenance Facility

MRCOG	New Mexico Mid-Region Council of Governments
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air-quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMDGF	New Mexico Department of Game and Fish
NNSA	National Nuclear Security Administration
NOI	notice of intent
NO _x	nitrous oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O ₃	ozone
OSHA	Department of Labor, Occupational Safety and Health
OST	Office of Secure Transportation
OTS	Office of Transportation and Safeguards
Pb	lead
PBS	Public Buildings Service
pico curies per liter	pCi/L
PL	Public Law
PM ₁₀	particulate matter measuring less than 10 microns in diameter
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLO	State Land Office
SO ₂	sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
TECC	Transportation and Emergency Command Center
TIP	Transportation Improvement Program
tpy	tons per year
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	unexploded ordnance
VMF	Vehicle Maintenance Facility
VOCs	volatile organic compounds

Appendix A

**Reasonably Available Control Measures for Fugitive Dust (20.11.20 New Mexico
Administrative Code [NMAC])**

and

Open Burning Emissions Reduction Techniques (20.11.20 NMAC)

REASONABLY AVAILABLE CONTROL MEASURES FOR FUGITIVE DUST OUTLINE IN THE NEW MEXICO ADMINISTRATIVE CODE (20.11.20 NMAC)

Heavy construction can be a substantial source of fugitive particle (or dust) emissions. In turn, these emissions can have a substantial temporary impact on local air quality. Emissions during the construction of a building or road can be associated with land clearing, drilling or boring, ground excavation, cut and fill operations (i.e., earth moving), and construction of a facility and supporting infrastructure. Dust emissions often vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing meteorological conditions. A large portion of the emissions results from equipment traffic over temporary roads at the construction site.

To avoid adversely affecting human health, public welfare or safety, impair visibility, or limiting the reasonable use of nearby properties, reasonable safeguards are established and implemented to minimize fugitive particle emissions. As part of implementation, a City of Albuquerque Fugitive Dust Control Construction Permit for Surface Disturbance/Demolition would be obtained before the construction phase commences. During a high wind event (five consecutive minutes with an average wind speed of 30 mph or higher), additional reasonably available controls would be implemented. New Mexico's Administrative Code (NMAC) 20.11.20 requires other reasonable precautions to prevent particulate matter from becoming airborne. Such precautions may include, but would not be limited to the following:

- Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
- Application of water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust;
- Paving of roadways and the maintaining of them in a clean condition;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. The implementation of adequate containment methods during sandblasting or other similar operations;
- Covering open equipment for conveying or transporting material likely to create objectionable air pollution when airborne; and
- Promptly removing spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
- During a high wind event (five consecutive minutes with an average wind speed of 30 miles per hour or higher reasonably available control measures or other effective measures to prevent fugitive dust from leaving the source would be implemented.

A comprehensive list of control measures outlined in the NMAC can be found below.

Unpaved roadways:

- paving using recycled asphalt, asphaltic concrete, concrete, or petroleum products legal for such use;
- using dust suppressants applied in amounts and rates recommended by the manufacturer and maintained as recommended by the manufacturer;
- using wet suppression; or
- using traffic controls, including decreased speed limits with appropriate enforcement; other traffic calming methods, vehicle access restrictions and controls; road closures or barricades; and off-road vehicle access controls and closures.

Paved roadways:

- cleaning up spillage and track out as necessary to prevent pulverized particulates from being entrained into the atmosphere;
- using paved or gravel entry/exit aprons with devices, such as steel grates, capable of knocking mud and bulk material off vehicle tires;
- using on-site wheel washes; or
- performing regularly scheduled vacuum street cleaning or wet sweeping with a sweeper certified by the manufacturer to be efficient at removing particulate matter having an aerodynamic diameter of less than 10 microns (i.e. PM₁₀).

Trucks hauling bulk materials on public and private roadways:

- using properly secured tarps or cargo covering that covers the entire surface area of the load;
- preventing leakage from the truck bed, sideboards, tailgate, or bottom dump gate;
- using wet suppression to increase moisture content of the bulk materials being hauled;
- using dust suppressants applied in amounts and rates recommended by the manufacturer; or
- maintaining a minimum of six inches of freeboard from the rim of the truck bed. Freeboard means the vertical distance from the highest portion of the load abutting the bed and the lowest part of the top rim of the truck bed.

Active operations in construction areas and other land disturbances:

- Short term control measures may include:
 - wet suppression;
 - dust suppressants applied in amounts and rates recommended by the manufacturer and maintained as recommended by the manufacturer;
 - temporary upwind windbreaks, including fabric fences where the top is at least four feet above grade, and with the bottom of the fence sufficiently anchored to the ground to prevent material from blowing underneath the fence; all windbreaks and fabric fences should be maintained in an upright and functional condition at all times until no longer needed to prevent or abate fugitive dust; all accumulated

material on the windward side of the windbreak should be periodically removed to prevent failure of the windbreak;

- watering the site at the end of each workday sufficient to stabilize the work area;
 - applying dust suppressants in amounts and rates recommended by the manufacturer on the worksite at the end of each workweek if no active operations are going to take place over the weekend or if active operations stop for more than two consecutive days;
 - starting construction at the location that is upwind from the prevailing wind direction and stabilizing disturbed areas before disturbing additional areas;
 - stopping active operations during high wind; or
 - clean up and removal of track-out material.
- Long term control measures should include:
 - site stabilization using dust suppressants applied in amounts and rates recommended by the manufacturer and maintained as recommended by the manufacturer;
 - reseeding using native grasses as specified in this part;
 - xeriscaping;
 - installing parallel rows of fabric fencing or other windbreaks set perpendicular to the prevailing wind direction either onsite or on a nearby property with the permission of the nearby property owner;
 - surfacing with gravel or other mulch material of a size and density sufficient to prevent surface material from becoming airborne;
 - mulching and crimping of straw or hay;
 - installing permanent perimeter and interior walls;
 - conventional landscaping techniques; or
 - clean up and removal of track-out material.

Bulk material handling:

- using spray bars;
- applying wetting agents (surfactants) to bulk material;
- using wet suppression through manual or mechanical application;
- adding dust suppressants to bulk materials in amounts and rates recommended by the manufacturer and maintained as recommended by the manufacturer;
- stopping bulk material handling, processing, loading or unloading during high wind conditions;
- reducing process speeds; or
- reducing drop heights.

Industrial sites:

- paving roadways and parking area with recycled asphalt, asphaltic concrete, concrete, or petroleum products legal for use;

- performing regularly scheduled vacuum street cleaning or wet sweeping;
- regularly using wet suppression on unpaved areas;
- using dust suppressants applied in amounts and rates recommended by the manufacturer, and maintained as recommended by the manufacturer;
- installing wind breaks;
- installing enclosures;
- installing on-site anemometers to measure wind speed; the anemometer should trigger a suitable warning mechanism such as a strobe light or audible alarm (that will not violate any applicable noise ordinance) to notify on-site personnel of high wind conditions;
- increasing wet suppression applications before and during high wind conditions; or
- stopping active operations during high wind conditions.

Demolition and renovation activities when asbestos-containing materials are not present:

- using constant wet suppression on the debris piles during demolition;
- using water or dust suppressants on the debris pile, applied in amounts and rates recommended by the manufacturer;
- using enclosures;
- using curtains or shrouds;
- using negative pressure dust collectors; or
- stopping demolition during high wind conditions.

Milling, grinding or cutting of paved or concrete surfaces:

- constantly using wet suppression;
- ongoing clean up of milled, ground or cut material by using wet sweeping;
- using dust suppressants applied in amounts and rates recommended by the manufacturer, and maintained as recommended by the manufacturer;
- using enclosures; or
- using curtains or shrouds.

Pressure blasting operations:

- using non-friable abrasive material;
- using curtains, enclosures or shrouds; or
- using negative pressure dust collectors.

OPEN BURNING EMISSIONS REDUCTION TECHNIQUES OUTLINE IN THE NEW MEXICO ADMINISTRATIVE CODE (20.11.21 NMAC)

Smoke, composed of carbon and other products of incomplete combustion, is the most obvious form of particulate pollution. Hydrocarbons, carbon monoxide, and other gases are also emitted during open burning. Due to the existing need to limit CO and particulate emissions in the region, the City of Albuquerque Open Burn Program regulates all open outdoor burning of

weeds and debris in order to limit the emissions of air contaminants (20.11.21 NMAC). If open burning would be necessary as part of implementing any of the alternatives, Emissions Reductions Techniques (ERTs) to reduce smoke from prescribed fires would be utilized. ERTs that would be considered include, but would not be limited to:

- Reducing the burn area;
- Physically removing fuels from the site;
- Schedule burning before green up;
- Using burning techniques that create a more efficient burn;
- Burning fuels in piles or windrows, and;
- Burning under dry conditions to increase combustion efficiency.

A comprehensive list of ERTs identified in the NMAC are outlined below. Should open burning be implemented, it would only be performed between the hours of 11:00 a.m. to 3:00 p.m. October 1st through March 31st, and 6:00 a.m. to 5:00 p.m. April 1st through September 30th. In addition, on winter no-burn advisory days, open burning would not be performed.

- **Mechanically removing fuel** – Mechanically removing fuels from a site reduces emissions proportionally to the amount of fuel removed.
- **Burn more frequently at low intensity** – This method prevents the fuels from building up and causing greater emissions.
- **Schedule burning before green up** – Burning in cover types with a grass and/or herbaceous fuel bed component can produce fewer emissions if burning takes place before these fuels green-up for the year.
- **Under burn before fall leaf drop** – When deciduous trees and shrubs drop their leaves, this ground litter contributes extra volume to the fuel bed.
- **Ungulates** – Grazing and browsing live grassy or brushy fuels by sheep, cattle, or goats can reduce fuels prior to burning or reduce the burn frequency.
- **Isolating pockets of fuel** – See explanation under reducing the area burned.
- **Reduce fuel consumption** – Emission reductions can be achieved when significant amounts of fuel are at or above the moisture of extinction, and therefore unavailable for combustion.
- **Having high moisture content in non-target fuels** – This can result in only the fuels targeted being dry enough to burn.
- **High moisture in large woody fuels** – Burning when large-diameter woody fuels (three-plus inch diameter or greater) are wet can result in lower fuel consumption and less smoldering.
- **Moist litter or duff** – The organic layer that forms from decayed and partially decayed material on the forest floor often burns during the inefficient smoldering phase. Consequently, reducing the consumption of this material can be effective at reducing emissions.

- **Mass ignition/shortened fire duration/aerial ignition** – “Mass” ignition can occur through a combination of dry fine-fuels and rapid ignition, which can be achieved using a helitorch. The conditions necessary to create a true mass ignition situation include rapid ignition of a large open area with continuous dry fuels.
- **Burn before large fuels cure** – Living trees contain very high internal fuel moistures, which take a number of months to dry after harvest. If an area can be burned within 3–4 drying months of timber harvest, many of the large fuels will still contain a significant amount of live fuel moisture.
- **Rapid mop-up** – Rapidly extinguishing a fire can reduce fuel consumption and smoldering emissions somewhat, although this technique is not particularly effective at reducing total emissions and can be expensive.
- **Burn before precipitation** – Scheduling a prescribed fire before a precipitation event will often limit the consumption of large woody material, snags, stumps, and organic ground matter, thus reducing the potential for a long smoldering period and reducing the average emission factor.
- **Minimizing emissions by minimizing the emission factor** – Using burning techniques that create a more efficient burn.
- **Burning fuels in piles or windrows** – Keeping piles dry and free of dirt and other debris generates greater heat and therefore, the piles burn more efficiently. The piles or windrows can be made mechanically or by hand.
- **Utilizing a backing fire** – Flaming combustion is cleaner than smoldering combustion. A backing fire takes advantage of this relationship by causing more fuel consumption to take place in the flaming phase than would occur if a heading fire were used.
- **Dry conditions** – Burning under dry conditions increases combustion efficiency and fewer emissions may be produced.
- **Air curtain incinerator (ACI)** – Use of an air curtain incinerator improves combustion and reduces emissions by introducing high velocity air into a combustion environment. As the air continuously rotates in and over the environment, a “curtain” is created over the fire thus trapping smoke and particulate matter. Constant airflow into and over the combustion environment allows temperatures to remain high, resulting in relatively complete combustion of all emission products. ACIs can burn a wider variety of materials from green fuel to red slash and produce lower smoke emissions as compared to pile or broadcast burning. They also reduce risk of an escaped fire since the fire is contained and can be quickly extinguished if necessary.

Appendix B

Emissions Calculations

Construction Emissions Calculations

The equipment and vehicle operation hours are estimated based on R.S. Means Building Cost Construction Data, 64th Annual Edition (Waier 2005) and field experience from similar projects (Table B-1). CO, NO_x and VOC emissions from demolition and construction activities were estimated (Tables B-2 and 3). These estimates include emissions from the following activities:

- use of construction equipment;
- movement of trucks carrying construction materials; and,
- construction worker's commutes.

Construction equipment emissions were based on the estimated hours of use and emission factors for each motorized source outlined in the following documents:

- Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling --Compression-Ignition (USEPA 2004a)
- Exhaust Emission Factors for Nonroad Engine Modeling -- Spark-Ignition (USEPA 2004b)
- Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling (USEPA 2004c)
- Nonroad Engine Population Estimates (USEPA 2004d).

Operational Emissions Calculations

Emissions associated with heating and cooling of the facilities and the potential use of emergency generators were estimated using procedures outlined in the following documents (Tables B-4 through 6):

- U.S. Department of Energy, Energy Information Administration. 1999. Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, Commercial Buildings Energy Consumption Survey.
- U.S. Environmental Protection Agency (USEPA). 1995. Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources.

Table B-1. Estimated Construction Equipment Use in Hours.

Equipment Type	Fuel	2007	2008	Total Hours
Air Compressor	Diesel	1193	2389	3581
Asphalt Paver	Diesel	69	138	207
Cement and Mortar Mixer	Diesel	596	1194	1791
Chain Saw	2-Stroke Commercial	229	689	919
Commercial Turf Equipment	Diesel	69	138	207
Crane	Diesel	895	1792	2686
Dozer	Diesel	688	2068	2756
Excavator	Diesel	688	2068	2756
Generator Sets <50 hp	4-Stroke Commercial	2133	4617	6750
Grader	Diesel	344	689	1033
Lawn Mower	4-Stroke Commercial	69	138	207
Lawn And Garden Tractor	4-Stroke Commercial	69	138	207
Leaf Blowers/Vacuums	2-Stroke Commercial	46	92	138
Off Highway Trucks	Diesel	1720	5170	6891
Other General Industrial Equipment	Diesel	596	1194	1791
Other Lawn and Garden Equipment	4-Stroke Commercial	46	92	138
Other Material Handling Equipment	Diesel	1284	2802	4087
Plate Compactor	Diesel	229	919	1149
Pressure Washers	4-Stroke Commercial	413	827	1240
Roller	Diesel	413	827	1240
Scraper	Diesel	344	689	1033
Stump Grinder	Diesel	344	689	1033
Trenchers	Diesel	895	1792	2686
Trimmer/Edger/Brushcutter	2-Stroke Commercial	46	92	138
Welder	Diesel	596	1194	1791
Pick-up Trucks (heavy duty)	Diesel	3234	7340	10574
Dump Trucks (heavy duty)	Diesel	5642	12335	17978

Sources: USEPA 2004a, USEPA 2004b, Waier 2001

Table B-2. 2007 Construction Emissions.

Equipment Type	VOC Transient Adjustment Factor (TAF)	NOx Transient Adjustment Factor (TAF)	CO Transient Adjustment Factor (TAF)	Horsepower	Load Factor	Annual Usage [Hours]	VOC [g/hp/hr]	NOx [g/hp/hr]	CO [g/hp/hr]	VOC [g]	NOx [g]	CO [g]
Air Compressor	1.00	1.00	1.00	45	0.43	1193	0.28	4.73	1.52	6,474	109,747	35,353
Cement and Mortar Mixer	1.00	1.00	1.00	33	0.43	596	0.28	4.73	1.52	2,359	39,985	12,880
Chain Saw	1.00	1.00	1.00	2	0.70	229	0.5508	4.3	4.1127	187	1,457	1,393
Commercial Turf Equipment	1.00	1.00	1.00	45	0.43	69	0.28	4.73	1.52	370	6,280	2,023
Crane	1.00	1.00	1.00	145	0.43	895	0.18	2.50	0.87	10,205	138,956	48,173
Dozer	1.05	1.04	1.53	250	0.59	688	0.18	2.50	0.87	19,527	265,895	92,180
Excavator	1.05	1.04	0.95	145	0.59	688	0.18	2.50	0.87	11,349	154,528	53,572
Generator Sets <50 hp	1.00	1.00	1.00	30	0.68	2133	0.28	4.73	1.52	12,266	207,934	66,982
Grader	1.05	1.04	1.53	152	0.59	344	0.18	2.50	0.87	5,960	81,154	28,134
Lawn and Garden Tractor	1.00	1.00	1.00	10	0.44	69	0.5508	4.3	4.1127	162	1,267	1,212
Lawn Mower	1.00	1.00	1.00	4	0.33	69	0.5508	4.3	4.1127	51	400	383
Leaf Blowers/Vacuums	1.00	1.00	1.00	1	0.94	46	0.5508	4.3	4.1127	27	212	202
Off Highway Trucks	1.05	1.04	1.53	727	0.59	1720	0.17	2.50	1.33	129,380	1,937,993	1,028,842
Other General Industrial Equipment	1.00	1.00	1.00	46	0.43	596	0.28	4.73	1.52	3,314	56,171	18,094
Other Lawn and Garden Equipment	1.00	1.00	1.00	8	0.58	46	0.5508	4.3	4.1127	120	939	898
Other Material Handling Equipment	2.29	1.10	2.57	72	0.21	1284	0.37	4.70	2.37	16,440	210,424	105,906
Paver	1.05	0.95	1.53	69	0.59	69	0.37	4.70	2.37	1,083	13,862	6,977
Plate Compactor	1.00	1.00	1.00	8	0.43	229	0.5508	4.3	4.1127	433	3,380	3,233
Pressure Washers	1.00	1.00	1.00	14	0.85	413	0.44	4.44	2.16	2,172	22,016	10,716
Roller	1.05	0.95	0.95	31	0.59	413	0.28	4.73	1.52	2,216	37,560	12,099
Scraper	1.05	1.04	0.95	253	0.59	344	0.18	2.50	0.87	9,881	134,546	46,644
Stump Grinder	1.00	1.00	1.00	122	0.43	344	0.18	2.50	0.87	3,325	45,271	15,694
Trenchers	1.05	1.04	0.95	45	0.59	895	0.28	4.73	1.52	6,921	117,326	37,794
Trimmer/Edger/Brushcutter	1.00	1.00	1.00	1	0.91	46	0.5508	4.3	4.1127	26	205	196
Welder	2.29	1.10	1.10	36	0.21	596	0.28	4.73	1.52	2,919	49,477	15,938
Personal Vehicles		Trips/Day		Mile/Trip	Number of Days	Total Miles Driven	VOC [g/mile]	NOx [g/mile]	CO [g/mile]			
	51	2		30	230	708,387	1.799	1.419	13.03	1,274,388	1,005,201	9,230,282
				Annual Usage [Hours]	Speed Limit	Total Miles Driven	VOC [g/mile]	NOx [g/mile]	CO [g/mile]			
		Pick-up Trucks (heavy duty)		344	35	12,042	1.85	1.57	16.08	22,266	18,906	193,634
		Dump Trucks (heavy duty)		895	35	31,309	1.76	8.13	11.27	55,041	254,542	352,852
								Total Grams		1,598,862	4,915,632	11,422,288
								Total Tons		1.76	5.41	12.56

Sources: USEPA 2004a, USEPA 2004b, USEPA 2004c, USEPA 2004d, Macias 2006

Table B-3. 2008 Construction Emissions.

Equipment Type	VOC Transient Adjustment Factor (TAF)	NOx Transient Adjustment Factor (TAF)	CO Transient Adjustment Factor (TAF)	Horsepower	Load Factor	Annual Usage [Hours]	VOC [g/hp/hr]	NOx [g/hp/hr]	CO [g/hp/hr]	VOC [g]	NOx [g]	CO [g]
Air Compressor	1.00	1.00	1.00	45	0.43	2389	0.28	4.73	1.52	12,966	219,795	70,803
Paver	1.05	0.95	1.00	69	0.59	138	0.37	4.70	1.52	2,169	25,119	8,996
Cement and Mortar Mixer	1.00	1.00	1.00	33	0.43	1194	0.2789	4.7279	4.1127	4,724	80,080	69,660
Chain Saw	1.00	1.00	1.00	2	0.70	689	0.55	4.30	1.52	561	4,378	1,551
Commercial Turf Equipment	1.00	1.00	1.00	45	0.43	138	0.28	4.73	0.87	742	12,577	2,306
Crane	1.00	1.00	1.53	145	0.43	1792	0.18	2.50	0.87	20,438	278,294	96,479
Dozer	1.05	1.04	0.95	250	0.59	2068	0.18	2.50	0.87	58,689	791,534	277,047
Excavator	1.05	1.04	1.00	145	0.59	2068	0.18	2.50	1.52	34,108	460,010	282,932
Generator Sets <50 hp	1.00	1.00	1.53	30	0.68	4617	0.28	4.73	0.87	26,550	450,069	82,505
Grader	1.05	1.04	1.00	152	0.59	689	0.1836	2.5	4.1127	11,936	160,983	267,376
Lawn and Garden Tractor	1.00	1.00	1.00	10	0.44	138	0.5508	4.3	4.1127	325	2,538	2,428
Lawn Mower	1.00	1.00	1.00	4	0.33	138	0.5508	4.3	4.1127	103	802	767
Leaf Blowers/Vacuums	1.00	1.00	1.53	1	0.94	92	0.55	4.30	1.33	54	424	131
Off Highway Trucks	1.05	1.04	1.00	727	0.59	5170	0.17	2.50	1.52	388,852	5,769,155	3,548,363
Other General Industrial Equipment	1.00	1.00	1.00	46	0.43	1194	0.2789	4.7279	4.1127	6,636	112,495	97,857
Other Lawn and Garden Equipment	1.00	1.00	2.57	8	0.58	92	0.55	4.30	2.37	241	1,881	1,035
Other Material Handling Equipment	2.29	1.10	1.53	72	0.21	2802	0.37	4.70	2.37	35,869	220,531	231,067
Plate Compactor	1.00	1.00	1.00	8	0.43	919	0.5508	4.3	4.1127	1,735	13,548	12,958
Pressure Washers	1.00	1.00	1.00	14	0.85	827	0.44	4.44	2.16	4,350	44,093	21,461
Roller	1.05	0.95	0.95	31	0.59	827	0.28	4.73	1.52	4,437	68,058	24,231
Scraper	1.05	1.04	0.95	253	0.59	689	0.18	2.50	0.87	19,789	266,895	93,417
Stump Grinder	1.00	1.00	1.00	122	0.43	689	0.18	2.50	0.87	6,658	90,666	31,432
Trenchers	1.05	1.04	0.95	45	0.59	1792	0.28	4.73	1.52	13,861	232,737	75,692
Trimmer/Edger/Brushcutter	1.00	1.00	1.00	1	0.91	92	0.5508	4.3	4.1127	52	410	392
Welder	2.29	1.10	1.10	36	0.21	1194	0.28	4.73	1.52	5,845	47,598	31,920
Personal Vehicles		Trips/Day		Mile/Trip	Number of Days	Total Miles Driven	VOC [g/mile]	NOx [g/mile]	CO [g/mile]			
	51	2		30	230	708,387	1.799	1.419	13.03	1,274,388	1,005,201	9,230,282
				Annual Usage [Hours]	Speed Limit	Total Miles Driven	VOC [g/mile]	NOx [g/mile]	CO [g/mile]			
		Pick-up Trucks (heavy duty)		344	35	12,042	1.85	1.57	16.08	22,266	18,906	193,634
		Dump Trucks (heavy duty)		895	35	31,309	1.76	8.13	11.27	55,041	254,542	352,852
								Total Grams		2,013,387	10,633,317	15,109,574
								Total Tons		2.21	11.70	16.62

Sources: USEPA 2004a, USEPA 2004b, USEPA 2004c, USEPA 2004d, Macias 2006

Table B-4. Heating and Cooling Emissions.

Facility	Gross Area [sf]	Heating Energy Requirement [BTU/sf]	NOx EF [lb/MMBTU]	NOx Emission [Tons/Year]	VOC EF [lb/MMBTU]	VOC Emission [Tons/Year]	CO EF [lb/MMBTU]	CO Emission [Tons/Year]
Federal Agent Facility	35000	75300	0.098	0.129	0.005	0.007	0.082	0.108
Mobile Electronics Management Facility	7000	74100	0.098	0.025	0.005	0.001	0.082	0.021
Vehicle Maintenance Facility	20000	72600	0.098	0.071	0.005	0.004	0.082	0.060
Transportation and Emergency Control Center	45000	75300	0.098	0.166	0.005	0.009	0.082	0.139
NNSA Kirtland Operations Facility	146000	91900	0.098	0.657	0.005	0.036	0.082	0.552
OST Administration and Support Offices	75000	78300	0.098	0.288	0.005	0.016	0.082	0.242
NA 10 Management and Administrative Offices	36000	75300	0.098	0.133	0.005	0.007	0.082	0.112
Total Emissions				0.421		0.081		1.234

Source: USEPA 1995

Table B-5. Emergency Generator Emissions.

Generator Rating [kW]	Number of Generators	Estimated Run Time (hr/yr)	Annual Power Output [kw-hr/yr]	VOC [g/kw-hr]	NOx [g/kw-hr]	CO [g/kw-hr]	VOC [g]	NOx [g]	CO [g]	VOC [ton]	NOx [ton]	CO [ton]
100	5	100	50000	0.428	14.5	3.35	21400	725000	167500	0.024	0.799	0.185
300	1	100	30000	0.428	14.5	3.35	12840	435000	100500	0.014	0.480	0.111
Total Emissions										0.038	1.279	0.295

Source: USEPA 1995

Table B-6. Operational Emission Roll-Up.

Source	NOx Emissions	VOC Emissions	CO Emissions
Heating and Cooling	0.4	0.1	1.2
Emergency Generator	1.3	0.0	0.3
Total Emissions	1.7	0.1	1.5

Appendix C

Cultural Resources and Historic Properties Communication/Coordination

March 20, 2006

Mr. David Eck
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, NM 87501

RE: Potential sites for DOE Federal Agency Facilities, Albuquerque, NM

Dear Mr. Eck:

The General Services Administration (GSA) on behalf of the Department of Energy (DOE) is considering three sites at the proposed Federal Government Albuquerque Transportation and Technology Center, Mesa del Sol, Bernalillo County, New Mexico.

We have also forwarded a copy of the enclosed report to Michelle Ensey and Dorothy Victor at New Mexico State Historic Preservation Office (SHPO). After I spoke with you last week I talked to the SHPO and the SHPO will wait for your comments before they comment to us.

The land is currently state land that is to be sold to a private developer. The DEA facility will be built by and leased from the private developer. The preferred site is site number 3.

The building complex is to be about two to three stories in height and approximately 300,000 square feet. Please review the enclosed Cultural Resources Survey and NMCRIS form. The report indicates that the potential for cultural resources is low.

GSA has considered this project in relation to the Criteria of Effect and Adverse Effect found in 36 CFR Section 800.5, and is of the opinion that this project will have no adverse effect on cultural or archeological resources. However, the construction contract will contain a discovery clause for the notification of the Contracting Officer so the New Mexico State Historic Preservation Officer could be notified immediately in the unlikely event cultural resources are uncovered during construction.

Please review the enclosed documentation and provide GSA and the New Mexico SHPO with your comments. If you do not respond within 30 days of your receipt of this documentation, we will assume your concurrence with our determination.

However, we would appreciate documentation as soon as possible. If you have any questions, or if I can be of any further assistance to you, please call me at (817) 978-4229. Again, thank you for your prompt attention to this matter.

Sincerely,

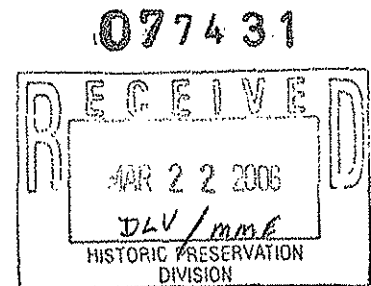
Steve Kline, AIA
Regional Historic Preservation Officer (7PD)



GSA Greater Southwest Region

March 20, 2006

Ms Michelle Ensey
Ms. Dorothy Victor
Historic Preservation Division
Office of Cultural Affairs
407 Galisteo St., Suite 238
Santa Fe, NM 87401



RE: Potential sites for DOE Federal Agency Facilities, Albuquerque, NM

DOZOTH *MICHELS*
Dear Ms. Victor and Ms. Ensey:

The General Services Administration (GSA) on behalf of the Department of Energy (DOE) is considering three sites at the proposed Federal Government Albuquerque Transportation and Technology Center, Mesa del Sol, Bernalillo County, New Mexico.

We have forwarded the enclosed report to David Eck of the New Mexico State Land Office for his review and comments. We understand that you will not comment until he has forwarded his comments to you. However, we have sent you a copy with our determination to expedite the review.

The land is currently state land that is to be sold to a private developer. The DEA facility will be built by and leased from the private developer. The preferred site is site number 3.

The building complex is to be about two to three stories in height and approximately 300,000 square feet. Please review the enclosed Cultural Resources Survey and NMCRIS form. The report indicates that the potential for cultural resources is low.

GSA has considered this project in relation to the Criteria of Effect and Adverse Effect found in 36 CFR Section 800.5, and is of the opinion that this project will have no adverse effect on cultural or archeological resources. However, the construction contract will contain a discovery clause for the notification of the Contracting Officer so the New Mexico State Historic Preservation Officer could be notified immediately in the unlikely event cultural resources are uncovered during construction.

Please review the enclosed documentation and provide GSA with your consultation consistent with your responsibilities under Section 106 of the National Historic Preservation Act. If you agree with GSA's determination of effect, you may, if you so desire, sign the concurrence line below and simply return the signed copy to our office. If you do not respond within 30 days of your receipt of this documentation, we will assume your concurrence with our determination.

However, we would appreciate documentation as soon as possible. If you have any questions, or if I can be of any further assistance to you, please call me at (817) 978-4229. Again, thank you for your prompt attention to this matter.

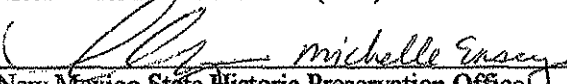
U.S. General Services Administration
819 Taylor Street
Fort Worth, TX 76102-6195
www.gsa.gov

Sincerely,



Steve Kline, AIA
Regional Historic Preservation Officer (7PD)

CONCUR:

 Michelle Ensey
for New Mexico State Historic Preservation Office

This project will not have an affect on cultural resources as long as ^{NNSA} ~~option~~ site 3 is chosen. LA142183 within NNSA site 2 is of undetermined eligibility. If NNSA site 2 is chosen, GSA, in consultation with this office would need to determine potential effects to the site.



PATRICK H. LYONS
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE

Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

01 May 2006

Steve Kline, AIA
Regional Historic Preservation Officer (7PD)
U.S. General Services Administration
819 Taylor Street
Fort Worth, Texas 76102-6195

Re: Mesa del Sol; Survey for proposed Federal Government Albuquerque Transportation and Technology Center, National Nuclear Security Administration; NMCRIS Activity Number 98258; Cibola Research Consultants (CRC) report CRC-402; SLO Compliance File 06DE088

Dear Mr. Kline:

The New Mexico State Land Office (SLO) regrets that other agency compliance priorities have prevented a response prior to this date. I have reviewed the captioned documents prepared by Cibola Research Consultants (CRC). The General Services Administration (GSA) proposes to construct the Albuquerque Transportation and Technology Center on New Mexico State Trust land managed by the SLO within the development area known as Mesa del Sol. Approximately 150 acres were surveyed in three separate alternative locations. The SLO understands that the preferred location is that designated as National Nuclear Security Administration (NNSA) site 3, and that the other locations will not be considered further, completely avoiding LA 142183.

CRC's report indicates their personnel discovered no significant cultural resources on Trust land within the area of potential effect for the undertaking (NNSA SITE 3) in the course of their survey. The ten isolated occurrences documented within this area are not thought to be cultural properties worthy of further consideration and protection. CRC's report therefore documents the absence of eligible cultural properties on New Mexico State Trust land within the project's area of effect. Given this absence, there apparently will be no effect on known cultural properties located on Trust land from the proposed project. On the basis of the documentation provided, the SLO believes that GSA should recommend a finding of "no effect" in consultations with the SHPO. As always, should any unanticipated cultural materials be noted during implementation of the project on Trust land, ground disturbance in their vicinity should cease and the SLO and the HPD should be notified.

The SLO greatly appreciates the efforts of GSA in protecting cultural resources that may be present on State Trust land. If you have questions or require further information, please do not hesitate to contact me.

Sincerely,
David C. Eck

Trust Land Archaeologist

Xc: Compliance file 06DE088cd

(505) 827-5857

deck@slo.state.nm.us

-State Land Office Beneficiaries -

Carrie Tingley Hospital • Charitable Penal & Reform • Common Schools • Eastern NM University • Rio Grande Improvement • Miners' Hospital of NM • NM Boys School • NM Highlands University • NM Institute of Mining & Technology • New Mexico Military Institute • NM School for the Deaf • NM School for the Visually Handicapped • NM State Hospital • New Mexico State University • Northern NM Community College • Penitentiary of New Mexico • Public Buildings at Capital • State Park Commission • University of New Mexico • UNM Saline Lands • Water Reservoirs • Western New Mexico University



Ysleta del Sur Pueblo

Tribal Council

119 S. Old Pueblo Rd. • P.O. Box 17579 • El Paso, Texas 79917 • (915) 859-8053 • Fax: (915) 859-4252

March 31, 2006

Mr. Steve Kline, AIA
Regional Historic Preservation Officer
Greater Southwest Region
U.S. General Services Administration
819 Taylor Street
Fort Worth, Texas 76102-6195

Dear Mr. Kline:

This is in response to your correspondence of March 21, 2006 in which you provide us the opportunity to comment on the proposed sites for Department of Energy, Mesa del Sol area, Bernalillo County, New Mexico.

While we believe that this project will not adversely affect traditional, religious or culturally significant sites of our Pueblo and have no opposition to it, we would like to request consultation should any discovery made during this project be determined to fall under NAGPRA guidelines. Copies of our Pueblo's Cultural Affiliation Position Paper and Consultation Policy are enclosed for your office records.

Thank you for allowing us the opportunity to comment on this project.

Sincerely,

Arturo Senclair
Tribal Governor

AS:svg



PUEBLO OF LAGUNA

P.O. BOX 191
LAGUNA, NEW MEXICO 87026



Office of:

The Governor
The Secretary
The Treasurer

(505) 552-6598
(505) 552-6854
(505) 552-6855

March 22, 2006,

Steve Kline
GSA Greater Southwest Region
819 Taylor Street
Fort Worth, TX 76102-6195

Dear Mr. Kline:

RE: Proposed Sites for Department of Energy Mesa Del Sol Area

The Pueblo of Laguna appreciates your consideration of possible interest your project may have on traditional religious or cultural properties.

At this time Laguna Pueblo has determined that the proposed undertaking WILL NOT have an affect at this time, but in the event that any new archaeological sites are discovered and any items are recovered, we would like to be notified to review items.

Sincerely,

Roland E. Johnson, Governor
Pueblo of Laguna

Appendix D

Notice of Availability and Affidavit of Publication

Notice of Availability

Interested parties are hereby notified that the General Services Administration has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact for the Proposed Construction and Lease of New Facilities for the Department of Energy, National Nuclear Security Administration, Office of Secure Transportation (OST) in Albuquerque, New Mexico.

Statutory Authority. This notice is being issued in accordance with the National Environmental Policy Act (Public Law [PL] 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by PL 94-52 and PL 94-83.

Purpose and Need. The purpose and need for the action is to provide facilities that allow for the planned expansion of the OST mission in Albuquerque. Current facilities are aged beyond their economically useful life for current and future mission requirements and do not meet standards for occupancy, security, and occupant safety and health.

Proposed Action and Alternatives. Seven alternatives were considered in an effort to satisfy the purpose and need for the project: (1) no action, (2) Construct and Lease New Facilities within the Mesa Del Sol Planned Development (south site), (3) Construct and Lease New Facilities within the Mesa Del Sol Planned Development (east site), (4) Construct and Lease New Facilities within the Mesa Del Sol Planned Development (northeast site), (5) Construct and Lease New Facilities South of the Kirtland Air Force Base Eubanks Gate, (6) Lease New Permanent and/or Temporary Facilities, and (7) Expand and/or Modify the Existing Facilities.

Comments. Comments on the Draft EA should be submitted via mail to Karen Waddell, General Services Administration, 819 Taylor Street, 7PM, Fort Worth, Texas 76102. Comments can also be submitted to Ms. Waddell via e-mail at karen.waddell@gsa.gov or via fax at 817-978-2577. The comment period is open for 30 days from June 1, 2006 following the publication of this notice in the Albuquerque Journal. A copy of the Draft EA is available for review at the Albuquerque Main Library, 501 Copper Avenue Northwest, Albuquerque, New Mexico 87102. The EA can also be viewed by accessing the following web page: <http://www.gsa.gov/nepa>, and clicking on NEPA Library, then Public NEPA Documents.

STATE OF NEW MEXICO
County of Bernalillo SS

Hill Tefoy, being duly sworn, declares and says that he is the said
Advertising Manager of The Albuquerque Journal, and that this newspaper is
duly qualified to publish legal notices or advertisements within the meaning of
Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has
been made or assessed as court cost that the notice, copy of which is hereto
attached, was published in said paper in the regular daily edition for
times, the first publication being on the 4 day of
June 22 and the subsequent consecutive publications on _____

Sworn and subscribed to before me, a Notary Public, in and
for the County of Bernalillo and State of New Mexico this

11 day of June of 2006

PRICE \$47.23
Statement to come at end of month.

ACCOUNT NUMBER C 32676

CLA-22-A (R-1/53)



Notary Public Seal for the State of New Mexico, County of Bernalillo. The seal is circular with a star in the center and the words 'NOTARY PUBLIC STATE OF NEW MEXICO' around the perimeter. Below the seal, the text 'My Commission Expires' is visible.

*** Proof ***
Albuquerque Publishing Company
7777 Jefferson NE
Albuquerque, NM 87109
(505)823-7777

Account Information	Ad Information
Phone: (214) 560-3934	Classification: -
Name: VANCE & MAN	Start date: 06-16-06
Account #: C82676	Stop date:
Address: 3809 CAMINO DR	Insertions:
FLANO, TX 75074	Rate code:
Client:	Publications:
Placed by:	
Fax #:	
	Size: 1 x
	Billed size: 0.03 inches
	Ad #: 3010394
	Ad type: Linear Ad

Ad Cost: \$0.00
Tax @ 6.7500%: \$
Tax @ 7.3125%: \$
Tax @ 7.6250%: \$
Total: \$0.00